

**DRAFT**

**PERMIT to OPERATE 13968**

**VANDENBERG AIR FORCE BASE, 30CES/CEOF**

**OWNERS**

**United States Air Force, National Aeronautics and Space Administration,  
Missile Defense Agency, National Reconnaissance Office, Army Air Force  
Exchange Service**

**OPERATORS**

**United States Air Force, ITT Federal Services, Analex Corporation, United  
Launch Alliance, The Boeing Company, Lockheed Martin – Health Services,  
Northrup Grumman, Army Air Force Exchange Service, Fort Mojave  
Services II, LLC, Corporate Allocation services, Inc., United Paradyne  
Corporation, Santa Barbara Applied Research, EG&G Technical Services**

**SANTA BARBARA COUNTY  
AIR POLLUTION CONTROL DISTRICT**

**DECEMBER 2012**



## ABBREVIATIONS/ACRONYMS

AP-42	USEPA's <i>Compilation of Emission Factors</i>
District	Santa Barbara County Air Pollution Control District
ASTM	American Society for Testing Materials
ATC	Authority to Construct
BACT	Best Available Control Technology
Btu	British thermal unit
CAM	compliance assurance monitoring
CEMs	Continuous Emissions Monitors
CAP	Clean Air Plan
dscf	dry standard cubic foot
°F	degree Fahrenheit
FID	facility identification
FUMP	Fuel Use Monitoring Plan
gr	grain
HAP	hazardous air pollutant (as defined by CAAA, Section 112(b))
H <sub>2</sub> S	hydrogen sulfide
I&M	Inspection & Maintenance
ISO	International Standards Organization
k	kilo (thousand)
l	liter
lb	pound
lbs/day	pounds per day
lbs/hr	pounds per hour
M	mega (million)
MACT	Maximum Achievable Control Technology
MM	million
MW	molecular weight
NAR	Nonattainment Review
NEI	net emissions increase
NSR	New Source Review
NSPS	New Source Performance Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
O <sub>2</sub>	oxygen
PM	particulate matter
PM <sub>10</sub>	particulate matter less than 10 microns
ppm(vd or w)	parts per million (volume dry or weight)
psia	pounds per square inch absolute
psig	pounds per square inch gauge
PRD/PSV	pressure relief device
PTO	Permit to Operate
RACT	Reasonably Available Control Technology
ROC	reactive organic compounds, same as "VOC" as used in this permit
scf	standard cubic foot
scfd (or scfm)	standard cubic feet per day (or per minute)
SIP	State Implementation Plan
SSID	stationary source identification
STP	standard temperature (60°F) and pressure (29.92 inches of mercury)
THC, TOC	total hydrocarbons, total organic compounds
TVP	true vapor pressure
USEPA	United States Environmental Protection Agency
VE	visible emissions
VRS	vapor recovery system
w.c.	water column

## 1.0 Introduction

### 1.1. Purpose

General. The Santa Barbara County Air Pollution Control District (“District”) began issuing permits to Vandenberg Air Force Base (VAFB) in the 1980s for boilers, water heaters and miscellaneous equipment for abrasive blasting, solvent use and fuel storage operations. Due to the loss of rule exemptions and new rules and regulations, an increased number of external combustion units and internal combustion engines have since become subject to permit. This Part 70 permit consolidates all active permits associated with the facilities that comprise the VAFB stationary source. Most of the permitted equipment consists of emergency standby generators and small boilers and water heaters.

Part 70 Permitting. This is the initial Part 70 permit for the VAFB stationary source (SSID = 1195), which is a major source for NO<sub>x</sub>, CO, and GHGs. The conditions listed in this permit are based on federal, state or local rules and requirements. Sections 9.A, 9.B and 9.C of this permit are enforceable by the District, the USEPA and the public since these sections are federally enforceable under Part 70. Where any reference contained in Sections 9.A, 9.B or 9.C refers to any other part of this permit, that part of the permit referred to is federally enforceable. Conditions listed in Section 9.D are only enforceable by the District.

Pursuant to the stated aims of Title V of the CAAA of 1990 (i.e., the Part 70 operating permit program), this permit has been designed to meet two objectives. First, compliance with all conditions in this permit would ensure compliance with all federally-enforceable requirements for the facility. Second, the permit would be a comprehensive document to be used as a reference by the permittee, the regulatory agencies and the public to assess compliance.

Tailoring Rule. On January 20, 2011, the District revised Rule 1301 to include greenhouse gases (GHGs) that are “subject to regulation” in the definition of “Regulated Air Pollutants”. District Part 70 operating permits now include GHG potential to emit calculations to determine whether a facility is a major source for GHGs.

### 1.2. Stationary Source/Facility Overview

- 1.2.1 Stationary Source/Facility Overview: VAFB is located on the south-central coast of California (Figure 1-1) and is headquarters for the 30th Space Wing (30 SW). The Air Force’s primary missions at VAFB are launching and tracking satellites in space, testing and evaluating America’s intercontinental ballistic missile systems, and supporting aircraft and space operations in the Western Range. The 30 SW hosts several other Federal agencies that conduct activities independent of 30 SW operations. VAFB is also committed to promoting commercial space launch ventures.

The VAFB Stationary Source contains numerous permitted and non-permitted stationary and mobile individual emission units and processes that affect air quality. Most VAFB stationary emission units consist of boilers, internal combustion engines, and paint spray booths. Processes include using solvents and storing and transferring various fuels. Mobile sources include aircraft, commercial lawn mowers, motor vehicles (on and off-road), spacecraft launch equipment, and portable units registered under the State’s portable equipment program.

Military installations are intrinsically more organizationally complex than traditional industrial facilities and include a wider variety of functions and activities, such as residential housing,

schools, churches, recreational parks, shopping centers, industrial operations, training ranges, airports, gas stations, utility plants, police and fire departments, and hospitals and clinics. Additionally, they host various tenants, including other Department of Defense (DoD) services, non-DoD Federal agency, contractor, and leased commercial. These entities own and operate their own separate industrial processes. The DoD and other federal agency operations on VAFB are considered part of the VAFB stationary source. The commercial space activities located at VAFB are not owned and operated by the federal government, therefore they are not considered part of the VAFB stationary source.



- 1.2.1 Facility New Source Review Overview: Existing equipment at VAFB that requires a permit solely due to the loss of permit exemption is not subject to NSR. New and modified equipment at VAFB is subject to NSR. A list of the permits that are being incorporated into this Part 70 permit is provided in Attachment 10.11. Those permit actions which are subject to New Source Review are identified in the attachment.
- 1.2.2 Project Ownership: The equipment at the stationary source is owned by the following entities: United States Air Force, National Aeronautics and Space Administration, Missile Defense Agency, National Reconnaissance Office, Army Air Force Exchange Service.
- 1.2.3 Project Operators: The equipment at the source is operated by the following entities: United States Air Force, ITT Federal Services, Analex Corporation, United Launch Alliance, The Boeing Company, Lockheed Martin – Health Services, Northrup Grumman, Army Air Force Exchange Service, Fort Mojave Services II, LLC, Corporate Allocation services, Inc., United Paradyne Corporation, Santa Barbara Applied Research, EG&G Technical Services.

### ***1.3 Emission Sources***

- 1.3.1 External Combustion Units: Multiple hot water boilers and heaters provide space heating and hot water service for base operations. See Attachment 10.2 for a list of these units.
- 1.3.2 Stationary Internal Combustion Engines. Multiple internal combustion engines provide emergency standby power for the operating systems at VAFB or water for fire suppression. One prime engine is used for training. See Attachment 10.3 for a list of these units.
- 1.3.3 South Vandenberg Power Plant (SVPP): The SVPP consists of five turbine generators that produce a total of 15,000 kW of electricity and serve as the primary source of power for VAFB. Each turbine is equipped with a diesel powered pony starter engine.
- 1.3.4 Bulk Fuel Storage: RP-1 is delivered to the site by USAF or commercial tanker trucks at a temperature between 30°F and 102°F, depending upon ambient weather conditions. The delivered RP-1 is normally pumped into the Ready Storage Vessel (RSV) for storage at the delivered temperature, using pumps which are integral to the tanker truck. When the configuration or condition of the delivery tanker truck does not provide for pumping, the material may be pumped into the RSV using the recirculation pump contained in the RP-1 transfer skid.

Within a typical launch cycle, the RSV ullage is occasionally vented during the performance of required system operation and maintenance functions. The RSV is vented only for the duration of these functions, after which the blanket pressure is reapplied. It is during these functions that the permitted emissions occur.

In order to accomplish transfer of RP-1 propellant to the launch vehicle, the RSV is pressurized with gaseous nitrogen to create a pressure differential between the RSV and the launch vehicle. A pressure differential of between 75 psig and 120 psig is used for this transfer.

- 1.3.5 Abrasive Blasting: Abrasive blasting equipment is utilized for abrasive blasting needs at the base.
- 1.3.6 Coatings: Spray booths are utilized for various spray painting needs conducted at the base.

- 1.3.7 Solvent Usage: Wipe cleaning and miscellaneous ROC-containing solvent use occurs at the base. As used in this permit, the term solvent is defined to include solvents, adhesive, sealants and all other ROCs used with this equipment and processes. Cold solvent cleaners and degreasing equipment and processes that are subject to Rule 321 or other applicable District rules are permitted as separate emission units.
- 1.3.8 Landfill. The landfill has been in operation since 1941. It accepts waste 9 hours per day and 6 days per week.
- 1.3.9 Gasoline Dispensing Facilities: There are three gasoline dispensing facilities subject to this permit that provide fuel for the automobiles and trucks servicing the base.
- 1.3.10 Hydrogen Sulfide Scrubbers: Water demands at VAFB are served primarily by four (4) wells located on Air Force property, located about four miles northeast of the main gate. Groundwater containing H<sub>2</sub>S is pumped from each of the four wells and treated prior to use. H<sub>2</sub>S removal is achieved through the use of two degasifiers. Each degasifier serves two wells. A pump elevates the water to the top of each of the degasifiers, as the water cascades down through three layers of "plastic saddles" separating the H<sub>2</sub>S from the water H<sub>2</sub>S is released and vented to atmosphere.
- 1.3.11 Hypergolic Fuel Storage and Handling.

**Hypergolic Storage Facility (HSF):** The HSF is a consolidated area for Vandenberg AFB to store and handle Defense Energy Support Command (DESC) hypergolic fuels and oxidizers. The facility is divided into two unique facilities, one used to store fuels and the other to store oxidizer. The fuel and oxidizer are used to propel booster and payload launch systems at various launch facilities on VAFB and other launch facilities throughout the country/world. This permit, PTO 7987, relates to the fuel portion of the HSF.

The primary hypergolic fuel stored at the facility is Aerozine-50 (A-50), a 50/50 blend of unsymmetrical dimethyl hydrazine (UDMH) and anhydrous "neat" hydrazine (N<sub>2</sub>H<sub>4</sub>). Additionally, small amounts of fuel, typically hydrazine (N<sub>2</sub>H<sub>4</sub>), High Purity/Ultra Pure UDMH or Mono-methyl hydrazine (MMH) used for spacecraft propulsion systems, is stored in stainless steel drums and/or Department of Transportation (DOT) cylinders.

Commercial trailers deliver fuel to the HSF 28,000 gallon capacity tanks. Fuel trailers arrive at the facility with their cargo under a pressure blanket of gaseous nitrogen. The operator connects the fuel trailers by flexible hose to the loading/unloading transfer "hardstand" piping system at the facility. Nitrogen gas is used to pressurize and maintain a higher pressure in the trailer during fuel transfer operations to the facility storage tanks.

The operator transfers the hypergolic fuel by either a straight pressure feed operation or with assistance from the 120 gallons per minute fuel transfer pump.

At the completion of unloading operations, the operator purges the transfer lines into the liquid/vapor separators and back into the 28,000 gallon capacity tanks with nitrogen gas.

The trailer, storage tank and piping system are vented through the FVSS and then re-blanketed with nitrogen to bring the transfer system to an inert condition. Trailers may also be purged with nitrogen gas. Trailers withdraw fuel as needed from the storage tanks for delivery to space launch complexes on VAFB and other launch facilities throughout the country/world. The same procedure used for trailer unloading is followed for trailer loading, except the flow is reversed. A

higher pressure is maintained in the storage tank relative to the trailer during fuel transfer operations. After the fuel is delivered to the space launch complexes, the trailers are returned to the HSF and may be unloaded of excess fuel and/or purged with nitrogen gas.

A relatively small amount of fuel is delivered to the HSF in drums and/or DOT cylinders and stored there for use at the launch complexes and various VAFB locations and other launch complexes throughout the country/world.. Some of the fuel will be transferred from the drums and/or DOT cylinders into trailers at the HSF. This source will contribute a negligible rate of emissions. All bulk fuels at the HSF are stored under a nitrogen blanket.

The following activities produce reactive organic compounds (ROC) emissions at the HSF:

1. fuel transfer between storage tanks,
2. storage tank purging,
3. fuel trailer loading/unloading,
4. fuel trailer purging, and
5. miscellaneous events that include:
  - a. fuel liquid/vapor separator vessel drainage,
  - b. fuel filter change,
  - c. pressure relief valve change,
  - d. pressure gauge change,
  - e. fuel sampling,
  - f. scrubber waste emptying,
  - g. flexhose purging,
  - h. sample bottle draining/flushing, and
  - i. fuel system decontamination procedure.

The fuel system decontamination procedure utilizes IPA for flushing out hypergolic fuel pipes and lines on trailers and associated fixed and portable propellant handling equipment. The operator pumps IPA from a 55 gallon capacity drum into the various portable equipment, pressurizes the equipment using nitrogen, thereby moving the IPA through the closed loop system piping, into a waste drum. The procedure involves the following three steps:

1. Initial opening and dispensing from the 55 gallon (capacity) IPA drum into the piping system.
2. Moving IPA through the pipes by means of pressurized nitrogen and dispensing into a waste drum.
3. Venting/purging of the equipment lines with nitrogen. To remove residual IPA, the operator vents the equipment piping, followed by purging with gaseous nitrogen and/or helium, and/or vacuum pump evacuation. The system controls emissions from the venting, purging or vacuum evacuation procedure, using the FVSS.

Fuel vapors from all activities except pressure relief valve changes, pressure gauge changes, sample bottle draining/flushing, steps 1 and 2 of the fuel system decontamination procedure and connecting / disconnecting flexible hoses will be vented through the FVSS. The fuel vapors from those activities not vented through the scrubber will be vented directly to atmosphere

**Microwave Reactor Systems (MRS):** Portable MRS are also used to safely control vapors generated during the unloading of hypergolic propellant from satellites and launch/re-entry vehicles. Each MRS consists of a microwave reactor, cooling water handling system, gaseous helium or nitrogen pressurization system, and associated lines, valves, and in-line sensors and



monitors. Each MRS is skid mounted so it can be used at various locations on VAFB. After propellant off-loading, the MRS is used to decontaminate the propellant transfer equipment, the satellite and/or vehicles so that they can be further processed without the need for a high level of personal protective equipment.

#### ***1.4 Emission Control Overview***

- 1.4.1 External Combustion Units: Many of the external combustion units are equipped with Low-NO<sub>x</sub> burners. These units are identified in Attachment 10.2. (i.e., NO<sub>x</sub> concentration limit of 30 ppm or less).
- 1.4.2 Internal Combustion Engines: Emissions from diesel-fired emergency-standby IC engines are controlled by limiting the hours of maintenance and testing operations. Newly installed emergency standby IC engines must also be certified to meet current EPA Tier standards. Johnson Matthey CRT diesel particulate filters are installed on the following IC engines: Device #111765, #114491, #110738 and #109236.
- 1.4.3 South Vandenberg Power Plant: Stainless steel alloy precious metal oxidation catalysts are used on each turbine. These catalysts operate within the temperature range of the turbine exhaust gases and oxidize carbon monoxide (CO) and non-methane hydrocarbon (NMHC) to water and carbon dioxide (CO<sub>2</sub>). A fugitive hydrocarbon inspection and maintenance (I&M) program is used for additional ROC control. NO<sub>x</sub> emissions are controlled through the use of water injection. The five diesel-fired starter engines associated with the turbines are controlled by limiting the hours of operations.
- 1.4.4 Bulk Fuel Storage: A gaseous nitrogen blanket pressure of 5 to 25 psig is maintained in the RP-1 Ready Storage Vessel at all times except when performing system operational or maintenance functions. The nitrogen blander prevents ingress of moisture from the atmosphere and prevents propellant vapor loss.
- 1.4.5 Abrasive Blasting: Dust filtration systems with a minimum control efficiencies of 98.0 percent or operation in a tent are utilized to control particulate matter (PM and PM<sub>10</sub>).
- 1.4.6 Coatings: Spray booths are equipped with overspray filters. ROC emissions are controlled by using compliant coatings required by District Rules 330 and 351. Some reduction in particulates is achieved via filters in the spray booth.
- 1.4.7 Solvent Usage: Add on emission controls are not utilized. The solvents used must comply with District prohibitory rules.
- 1.4.8 Landfill: LFG emissions result from anaerobic biological decomposition of organic matter deposited in the landfill escaping to the surface. LFG consists primarily of methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>), with smaller amounts of non-methane organic compounds (NMOC). Some NMOCs are reactive organic compounds (ROC). The landfill is not equipped with a landfill gas control system.
- 1.4.9 Gasoline Dispensing Facilities: The gasoline dispensing facilities are equipped with Phase I and Phase II Vapor Recovery Systems.
- 1.4.10 Hydrogen Sulfide Scrubbers: There are no emissions controls for these scrubbers.

- 1.4.11 **Hypergolic Fuel Storage and Handling:** The Hypergolic Storage Facility (HSF) is used for the transfer, handling and bulk storage of liquid propellant fuels and oxidizers. Fuel emissions are controlled with a 350 gallon capacity, stainless steel Illinois Institute of Technology/Research Institute Fuel Vapor Scrubbing System (FVSS). Oxidizer emissions are controlled with an 850 gallon capacity, stainless steel Kennedy Space Center model S70-1095 Oxidizer Vapor Scrubbing System (OVSS). The OVSS is rated at 400 standard cubic feet per minute (SCFM) and consists of a four tower packed bed scrubbing system, 850 gallon capacity recirculating sump tank, conductivity monitor, and electrical and mechanical control systems.

For the hypergolic oxidizer, the MRS is connected to the vent on the oxidizer propellant tank of satellite/vehicle and the propellant receiving cylinder. The tank on the satellite/vehicle is pressurized and valves are opened to allow the liquid propellant to flow from the satellite/vehicle into the receiving cylinder. Once the propellant transfer is complete, excess pressure in the tank on the satellite/vehicle is vented along with the receiving cylinder. After the tank and cylinder are vented, the propellant lines are aspirated to remove both liquid and vapor propellant in the transfer lines. To further remove propellant, the propellant lines are purged with gaseous helium or nitrogen. At this point, the propellant tank is purged dry to remove the residual propellant until the concentration of the propellant vapors in the tank is essentially zero. To complete the decontamination process, the propellant lines are purged dry until the concentration of the propellant vapors in the lines is essentially zero. Afterward during the ground equipment decontamination process, the aspiration tank is subjected to a series of tank pressurization/vacuum cycles using the helium/nitrogen source and the aspirator. This series of pressurization/vacuum cycles removes the majority of the residual propellant.

For the hypergolic fuel, the MRS is used to clean the tank on the satellite/vehicle but isopropyl alcohol (IPA) is introduced into the tank to flush the tank after the propellant lines are aspirated and purged following propellant off-load. The IPA flush removes most of the residual hypergolic fuel from the system. The IPA contaminated with hypergolic fuel is transferred back into drums and sent off-base for disposal as hazardous waste. After removal of the bulk IPA from the tank, the above process is used to decontaminate the propellant tank and transfer equipment.

## ***1.5 Offsets/Emission Reduction Credit Overview***

This stationary source triggers offsets for all pollutants. See Section 7.0 for a detailed description of offset liabilities and corresponding emission reduction credits.

## ***1.6 Part 70 Operating Permit Overview***

- 1.6.1 **Federally-Enforceable Requirements:** All federally enforceable requirements are listed in 40 CFR Part 70.2 (Definitions) under “applicable requirements.” These include all SIP-approved District Rules, all conditions in the District-issued Authority to Construct permits and all conditions applicable to major sources under federally promulgated rules and regulations. All these requirements are enforceable by the public under CAAA. (see Section 3 for a list of the federally enforceable requirements).
- 1.6.2 **Insignificant Emissions Units:** Insignificant emission units are defined under District Rule 1301 as any regulated air pollutant emitted from the unit, excluding HAPs, that are less than 2 tons per year based on the unit’s potential to emit and any HAP regulated under section 112(g) of the Clean Air Act that does not exceed 0.5 ton per year based on the unit’s potential to emit. Insignificant activities were listed in the Part 70 application with supporting calculations.

Applicable requirements may apply to insignificant units.

- 1.6.3 Federal Potential to Emit: The federal potential to emit (PTE) of a stationary source does not include fugitive emissions of any pollutant, unless the source is: (1) subject to a federal NSPS/NESHAP requirement which was in effect as of August 7, 1980, or (2) included in the 29-category source list specified in 40 CFR 51.166 or 52.21. The federal PTE does include all emissions from any insignificant emissions units. (See Section 5.4 for the federal PTE for this source.
- 1.6.4 Permit Shield: The operator of a major source may be granted a shield: (a) specifically stipulating any federally-enforceable conditions that are no longer applicable to the source and (b) stating the reasons for such non-applicability. The permit shield must be based on a request from the source and its detailed review by the District. Permit shields cannot be indiscriminately granted with respect to all federal requirements. VAFB made no requests for a permit shield.
- 1.6.5 Alternate Operating Scenarios: A major source may be permitted to operate under different operating scenarios, if appropriate descriptions of such scenarios are included in its Part 70 permit application and if such operations are allowed under federally-enforceable rules. VAFB made no requests for alternative operating scenarios.
- 1.6.6 Compliance Certification: Part 70 permit holders must certify compliance with all applicable federally-enforceable requirements including permit conditions. Such certification must accompany each Part 70 permit application and be re-submitted annually on the anniversary date of the permit before March 1st or on a more frequent schedule specified in the permit. A “responsible official” of the owner/operator company whose name and address is listed prominently in the Part 70 permit signs each certification. (see Section 1.6.9 below)
- 1.6.7 Permit Reopening: Part 70 permits are re-opened and revised if the source becomes subject to a new rule or new permit conditions are necessary to ensure compliance with existing rules. The permits are also re-opened if they contain a material mistake or the emission limitations or other conditions are based on inaccurate permit application data.
- 1.6.8 Hazardous Air Pollutants (HAPs): The requirements of Part 70 permits also regulate emission of HAPs from major sources through the imposition of maximum achievable control technology (MACT), where applicable. The federal PTE for HAP emissions from a source is computed to determine MACT or any other rule applicability. (see Sections 4.15 and 5.0)
- 1.6.9 Responsible Official: The designated responsible official and his mailing address is:

Mr. Ninam Armagno, Commander, 30<sup>th</sup> Space Wing  
U.S. Air Force  
747 Nebraska Ave.  
Vandenberg Air Force Base 93437

## **2.0 Description of Project and Process Description**

The Air Force’s primary missions at VAFB are launching and tracking satellites in space, testing and evaluating America’s intercontinental ballistic missile systems, and supporting aircraft and space operations in the Western Range. The 30 SW hosts several other Federal agencies that conduct activities independent of 30 SW operations. VAFB is also committed to promoting

commercial space launch ventures.

The VAFB Stationary Source contains numerous permitted and non-permitted stationary and mobile individual emission units and processes that affect air quality. Most VAFB stationary emission units consist of boilers, internal combustion engines, and paint spray booths. Processes include using solvents and storing and transferring various fuels. Mobile sources include aircraft, commercial lawn mowers, motor vehicles (on and off-road), spacecraft launch equipment, and portable units registered under the State's portable equipment program.

### **3.0 Regulatory Review**

All enforceable requirements are listed in this section, and include all District Rules, all conditions in the District-issued Authority to Construct permits and applicable federally promulgated rules and regulations.

#### **3.1. *Rule Exemptions Claimed***

Permit-exempt equipment at the stationary source includes small IC engines, small boilers and furnaces, PERP-registered portable equipment, abrasive blasting operations, architectural coating operations, diesel storage tanks, and other miscellaneous activities. An inventory of the permit-exempt equipment that was at the base when the permit application was submitted is Attachment 10.12.

#### **3.2. *Compliance with Applicable Federal Rules and Regulations***

- 3.2.1. 40 CFR Parts 51/52 {New Source Review (Nonattainment Area Review and Prevention of Significant Deterioration)}: VAFB was originally permitted in the 1980s under District Rule 205.C. That rule was superseded by District Regulation VIII (*New Source Review*) in April 1997. Compliance with Regulation VIII ensures that this facility will comply with federal NSR requirements.
- 3.2.2. 40 CFR Part 60 {New Source Performance Standards}/Subpart GG: This subpart applies to stationary gas turbines with a heat input at peak load equal to or greater than 10 million Btu per hour that commence construction, modification, or reconstruction after October 3, 1977. The turbines at the SVPP are subject to this NSPS. Compliance with the stricter NSR emission limits ensures compliance with the emission limits of the NSPS. The SVPP is equipped with Continuous Emissions Monitors (CEMS) to ensure ongoing compliance with the NSPS.
- 3.2.3. 40 CFR Part 60 {New Source Performance Standards}/Subpart IIII: This Subpart applies to owners and operators of stationary compression ignition engines that are constructed, modified, or reconstructed after July 11, 2005. Engines subject to this subpart are required to meet 6.9 g/bhp NO<sub>x</sub> and 0.40 g/bhp PM emission standards. New engines at the source are subject to this subpart and meet these standards.
- 3.2.4. 40 CFR Part 63 {National Emission Standards for Hazardous Air Pollutants} Subpart ZZZZ: This Subpart applies to owners and operators of stationary reciprocating IC engines (RICE). For area sources of HAP emissions, stationary RICE are "existing" if construction or reconstruction commenced before June 12, 2006. Engines that are not categorized as existing are considered "new". The VAFB stationary source is an area source of HAP emissions.

Existing emergency standby compression ignition RICE at area sources of HAP emissions must

comply with the applicable emission and operating limits by no later than May 3, 2013. The following operating requirements apply:

- (1) change the oil and filter every 1,000 hours of operation or annually, whichever comes first;
- (2) inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first;
- (3) inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

Emission limits are not established for existing emergency-standby CI RICE at area sources of HAP Emissions.

The pony starter engines at the SVPP are existing stationary black start RICE. A black start engine is an engine whose only purpose is to start up a combustion turbine. Existing stationary black start compression ignition RICE at area sources of HAP emissions must comply with the applicable emission and operating limits by no later than May 3, 2013. The following operating requirements apply:

- (1) change the oil and filter every 500 hours of operation or annually, whichever comes first;
- (2) inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first;
- (3) inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

In lieu of changing the oil, VAFB may instead conduct an oil analysis. The analysis measures the Total Base Number, the oil viscosity, and the percent water content. The oil and filter will be changed if any of the following limits are exceeded:

- (1) The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new;
- (2) The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new;
- (3) The tested percent water content (by volume) is greater than 0.5 percent.

If VAFB chooses to change the oil at the specified frequencies, no analysis is required.

Per Section 63.6625(e) the engines must be operated and maintained according to the manufacturer's written instructions, or VAFB must develop their own maintenance plan to minimize emissions.

Per Section 63.6645, existing stationary RICE that are not subject to numerical emission standards do not have to submit an initial notification. No reporting requirements are identified in Section 63.6650 for these units. Per Section 63.6655, VAFB must keep records of maintenance on the engines.

3.2.5 40 CFR Part 63 Subpart HHHHHH: On January 9, 2008, the EPA adopted National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating

Operations at Area Sources (Subpart HHHHHH). This regulation applies to auto body shops as well as businesses that spray-apply coatings to metal or plastic, or use methylene chloride (MeCl) to do paint stripping. For more information about the regulation, see the District webpage here: <http://www.sbcapcd.org/airtoxics/neshap/paintstripsco.htm>.

- 3.2.6 40 CFR Part 70 {Operating Permits}: This Subpart is applicable to VAFB. In its Part 70 permit application (Form I), VAFB certified compliance with all existing District rules and permit conditions. This certification is also required of VAFB semi-annually. Issuance of this permit and compliance with all its terms and conditions will ensure that VAFB complies with the provisions of all applicable Subparts.

### **3.3. *Compliance with Applicable State Rules and Regulations***

- 3.3.1 Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI) Engines (CCR Section 93115, Title 17): This ATCM applies to all stationary diesel-fueled engines rated 50 brake horsepower (bhp) and greater at this facility.

3.3.1.1 Emergency Standby Diesel Engines: Owners of in-use stationary DICE E/S engines are subject to the requirements of Table 3 of the ATCM. By limiting annual maintenance and testing hours, these engines are not required to meet any new emission standards (e.g. engine retrofits are not required). The ATCM does require that the hours of operation be monitored with a non-resettable hour meter, that CARB Diesel Fuel be used (or approved alternative) and that detailed records of use be recorded and reported.

Owners and operators of new stationary DICE E/S engines are subject to the emission standards and operating limits of Table 1 of the ATCM. Owners and operators of new stationary DICE fire pump engines are subject to the emission standards and operating limits of Table 2 of the ATCM.

- 3.3.1.2 Prime Diesel Engines: The generator providing primary power to the Launch Facility Electrical Power and Air Conditioning Systems Trainer (Device #112253) qualifies for the exemption in §93115.3(f) of the State's Airborne Toxics Control Measure for Stationary Compression Ignition Engines (ATCM). This exemption excludes this engine from the requirements of §93115.5 Fuel and Fuel Additive Requirements and §93115.7 Stationary Prime Diesel-fueled CI Engine Emission Standards the ATCM.

- 3.3.1.3 Pony Starter Engines: The operation of each pony starter engine is limited to no more than 20 hours/year and therefore the engines qualify for the Low-Use Prime Engines Outside of School Boundaries exemption in Section 93115.3 (j) in the DICE ATCM. The sulfur content for diesel burned in prime engines, such as the pony starter engines, is 0.0015 ppmw based on the requirements of Section 93115.5 in the DICE ATCM. This requirement became effective in January 2006.

- 3.3.2 Hexavalent Chromium and Cadmium Airborne Toxic Control Measure (ATCM) -- Motor Vehicle and Mobile Equipment Coatings (17 CCR § 93112): This regulation became effective on September 19, 2002. Each air pollution control and air quality management district was required to implement and enforce the ATCM by no later than January 19, 2003. Among other things, this ATCM prohibits the use of automotive coatings containing cadmium and hexavalent chromium.

### 3.4. ***Compliance with Applicable Local Rules and Regulations***

Applicability Tables: These tables are based on data available from the District's administrative files and from the VAFB Part 70 Operating Permit application. Table 3.1 lists the federally-enforceable District promulgated rules that are "generic" and apply to the facility. Table 3.2 lists the federally-enforceable District promulgated rules that are "unit-specific". Table 3.3 lists non federally-enforceable District rules.

#### 3.4.1. Rules Requiring Further Discussion: This section provides a more detailed discussion regarding the applicability and compliance of certain rules for VAFB:

*Rule 201 - Permits Required:* This rule applies to any person who builds, erects, alters, replaces, operates or uses any article, machine, equipment, or other contrivance which may cause the issuance of air contaminants. The equipment included in this permit is listed in Attachment 10.6. An Authority to Construct is required to return any de-permitted equipment to service and may be subject to New Source Review.

The external combustion equipment subject to this permit was originally permitted due to the (a) loss in exemption and (b) to implement the July 29, 2008 ENVVEST Compliance Plan and any subsequent District-approved updates thereof. On January 17, 2008, the District Board of Directors revised Rule 202 (Exemptions to Rule 201) to lower the exemption threshold for utility grade natural gas fired units from 5.0 MMBtu/hr to 2.0 MMBtu/hr. This change was necessitated by the concurrent adoption of Rule 361 (Small Boilers, Process Heaters and Steam Generators). On September 2, 2008, the District approved the Air Force's July 29, 2008 ENVVEST Compliance Plan. This Plan implements the final stage of the ENVVEST process and closes out that program. All affected units are required to maintain emissions at Rule 360/361 standards, install temperature and pressure corrected fuel meters, obtain air permits, and offset the NOX increase from the baseline ENVVEST levels.

*Rule 210 - Fees:* Pursuant to Rule 201.G, District permits are reevaluated every three years. This includes the re-issuance of the underlying permit to operate. Also included are the PTO fees. The fees for this facility are based on District Rule 210, Fee Schedule A; however Part 70 specific costs are based on cost reimbursement provisions (Rule 210.C). The fee calculations for this permit are included as an attachment to the permit.

*Rule 301- Circumvention:* This rule prohibits the concealment of any activity that would otherwise constitute a violation of Division 26 (Air Resources) of the California H&SC and the District rules and regulations. To the best of the District's knowledge, VAFB is operating in compliance with this rule.

*Rule 302 - Visible Emissions:* This rule prohibits the discharge from any single source any air contaminants for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade than a reading of 1 on the Ringelmann Chart or of such opacity to obscure an observer's view to a degree equal to or greater than a reading of 1 on the Ringelmann Chart.

*Rule 303 – Nuisance:* Rule 303 prohibits any source from discharging such quantities of air contaminants or other material in violation of Section 41700 of the Health and Safety Code which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety or any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.

Compliance with this rule is assessed through the District's enforcement staff's complaint response program. Based on the source's location, the potential for public nuisance is small.

*Rule 304 - Particulate Matter, Northern Zone:* VAFB is considered a Northern Zone source. This rule prohibits the discharge into the atmosphere from any source particulate matter in excess of 0.3 grain/scf. Sources subject to this rule include all diesel-fired IC engines. Improperly maintained diesel engines have the potential to violate this rule. Compliance will be assured by requiring all engines to be maintained according to manufacturer maintenance schedules.

*Rule 309 - Specific Contaminants:* Under Section "A", no source may discharge sulfur compounds and combustion contaminants in excess of 0.2 percent as SO<sub>2</sub> (by volume) and 0.3 gr/scf (at 12% CO<sub>2</sub>) respectively. All diesel powered piston IC engines have the potential to exceed the combustion contaminant limit if not properly maintained.

*Rule 310 - Odorous Organic Compounds:* This rule prohibits the discharge of H<sub>2</sub>S and organic sulfides that result in a ground level impact beyond the property boundary in excess of either 0.06 ppmv averaged over 3 minutes and 0.03 ppmv averaged over 1 hour.

*Rule 311 - Sulfur Content of Fuel:* This rule limits the sulfur content of fuels combusted at VAFB to 0.5 percent (by weight) for liquids fuels and 50 gr/100 scf (calculated as H<sub>2</sub>S) {or 796 ppmvd} for gaseous fuels. Section B and Section C of this rule limit the sulfur content of gaseous fuels to no more than 239 ppmv as H<sub>2</sub>S. The permittee uses CARB certified diesel (total sulfur content of 0.0015 percent by weight) and PUC quality natural gas (total sulfur content of 80 ppmv and H<sub>2</sub>S content of 4 ppmv) which comply with this rule.

*Rule 317 - Organic Solvents:* This rule sets specific prohibitions against the usage of both photo-chemically and non-photo-chemically reactive organic solvents (40 lb/day and 3,000 lb/day respectively). There is the potential to exceed the limits under Section B.2 during significant surface coating activities. VAFB is required to maintain records to ensure compliance with this rule.

*Rule 321 - Solvent Cleaning Operations:* This rule was revised to fulfill the commitment in the Clean Air Plans to implement requirements for solvent cleaning machines and solvent cleaning. The revised rule contains solvent reactive organic compounds (ROCs) content limits, revised requirements for solvent cleaning machines, and sanctioned solvent cleaning devices and methods. These provisions apply to solvent cleaning machines and wipe cleaning.

*Rule 322 - Metal Surface Coating Thinner and Reducer:* This rule prohibits the use of photo-chemically reactive solvents for use as thinners or reducers in metal surface coatings. VAFB is required to maintain records during maintenance operations to ensure compliance with this rule.

*Rule 323 - Architectural Coatings:* This rule sets standards for the application of surface coatings. The primary coating standard that will apply to the lease is for Industrial Maintenance Coatings which has a limit of 250 grams ROC per liter of coating, as applied. The permittee will be required to comply with the Administrative requirements under Section F for each container on the lease.

*Rule 323 - Architectural Coatings:* This rule sets standards for the application of surface coatings. With certain exceptions, this rule limits the ROC content of architectural coatings to 250 grams/liter. The primary coatings utilized at this facility are Industrial Maintenance Coatings that have a limit of 250 gram ROC per liter of coating, as applied.



*Rule 324 - Disposal and Evaporation of Solvents:* This rule prohibits any source from disposing more than one and a half gallons of any photo-chemically reactive solvent per day by means that will allow the evaporation of the solvent into the atmosphere. VAFB is required to maintain records to ensure compliance with this rule.

*Rule 326 - Storage of Reactive Organic Compound Liquids.* This rule applies to equipment used to store reactive organic compound liquids with a vapor pressure greater than 0.5 psia. The tanks storing JP-8 fuel (Device #109896 and 109897) are subject to this rule.

*Rule 330 - Surface Coating of Metal Parts and Products.* This rule is applicable to any person who manufactures, applies or specifies the use of surface coatings for metal parts and products. VAFB employs surface coating operations throughout the facility.

*Rule 333 - Control of Emissions from Reciprocating Internal Combustion Engines:* This rule applies to all engines with a rated brake horsepower of 50 or greater. The emergency standby IC engines at the facility are compression ignition emergency standby engines and are exempt from the provisions of the Rule per Section B.1.d. The turbine starter engines (pony engines) are exempt per Section B.2. The engine located in Building 7425 is permitted to operate up to 600 hours per year, therefore it is subject to the prime engine requirements of Rule 333. Portable analyzer monitoring is required once per quarter and source tests are required if triggered by 333.I.8.

*Rule 342 - Control of Oxides of Nitrogen from Boilers, Steam Generators and Process Heaters.* This rule sets emission standards for external combustion units with a rated heat input greater than 5.0 MMBtu/hr. The units subject to this rule are identified in Attachment 10.2. (Permitted Equipment Combustion Equipment Requirements). These units are required to meet the emissions standards established in this rule.

*Rule 343 - Petroleum Storage Tank Degassing:* This rule applies to the degassing of any above-ground tank, reservoir or other container of more than 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 2.6 psia, or between 20,000 gallons and 40,000 gallons capacity containing any organic liquid with a vapor pressure greater than 3.9 psia.

*Rule 346 - Loading of Organic Liquids:* This rule applies to the transfer of organic liquids into an organic liquid cargo vessel. For this rule only, an organic liquid cargo vessel is defined as a truck, trailer or railroad car.

*Rule 351 - Surface Coating of Wood Products.* This rule applies to the application of coating to, and surface preparation of, wood products. VAFB employs surface coating operations throughout the facility.

*Rule 352 - Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters.* This rule applies to any person who manufactures, supplies, sells, offers for sale, installs, or solicits the installation of any natural gas-fired fan-type central furnaces or water heaters for use within the District.

*Rule 360 - Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers:* This rule applies to any person who supplies, sells, offers for sale, installs, or solicits the installation of any new water heater, boiler, steam generator or process heater for use within the District with a rated heat input capacity greater than or equal to 75,000 British thermal units per

hour up to and including 2,000,000 British thermal units per hour. The units subject to this rule are identified in Attachment 10.2. (*Permitted Equipment Combustion Equipment Requirements*).

*Rule 361 - Small Boilers, Steam Generators and Process Heaters:* This rule applies to any boiler, steam generator, and process heater with a rated heat input capacity of greater than 2 million British thermal unit per hour and less than 5 million British thermal unit per hour. The units subject to this rule are identified in Attachment 10.2.

*Rule 505 - Breakdown Conditions:* This rule describes the procedures that VAFB must follow when a breakdown condition occurs to any emissions unit associated with the VAFB facility. A breakdown condition is defined as an unforeseeable failure or malfunction of (1) any air pollution control equipment or related operating equipment which causes a violation of an emission limitation or restriction prescribed in District Rules and Regulations, or by State law, or (2) any in-stack continuous monitoring equipment, provided such failure or malfunction:

- a. Is not the result of neglect or disregard of any air pollution control law or rule or regulation;
- b. Is not the result of an intentional or negligent act or omission on the part of the owner or operator;
- c. Is not the result of improper maintenance;
- d. Does not constitute a nuisance as defined in Section 41700 of the Health and Safety Code;
- e. Is not a recurrent breakdown of the same equipment.

*Rule 810 - Federal Prevention of Significant Deterioration:* This rule was adopted January 20, 2011 to incorporate the federal Prevention of Significant Deterioration rule requirements into the District's rules and regulations. Future projects at the facility will be evaluated to determine whether they constitute a new major stationary source or a major modification.

### 3.5. Compliance History

This section contains a summary of the compliance history for this facility since the issuance of prior permit renewal and was obtained from documentation contained in the District's Administrative files

3.5.1 *Facility Inspections.* Inspections of VAFB are conducted frequently for compliance with SCDP permit conditions and ongoing routine activities. A listing of the inspections of the VAFB for the past five years is too extensive to include in this permit but is available in the District files for this source.

3.5.2 This section contains a summary of all enforcement actions issued to this facility in the last five years.

VIOLATION	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION	LOCATION OF VIOLATION
NOV	8990	05/20/2008	Installation of Equipment without an ATC.	FID 201 - Bldg. 6523
NOV	9470	09/23/2009	Exceedance of 2 hrs. per Day Operation of DICE.	FID 201
NOV	9471	09/23/2009	Exceedance of 2 hrs. per Day Operation of DICE.	FID 201
NOV	9895	12/22/2011	Rule 201 Violation.	--

**Table 3.1 Generic Federally Enforceable District Rules**

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
<u>RULE 101</u> : Compliance by Existing Installations	All emission units	Emission of pollutants	June 1981
<u>RULE 102</u> : Definitions	All emission units	Emission of pollutants	March 17, 2011
<u>RULE 103</u> : Severability	All emission units	Emission of pollutants	October 23, 1978
<u>RULE 201</u> : Permits Required	All emission units	Emission of pollutants	June 19, 2008
<u>RULE 202</u> : Exemptions to Rule 201	Applicable emission units	Insignificant activities/emissions, per size/rating/function	June 21, 2012
<u>RULE 203</u> : Transfer	All emission units	Change of ownership	April 17, 1997
<u>RULE 204</u> : Applications	All emission units	Addition of new equipment or modification to existing equipment.	April 17, 1997
<u>RULE 205</u> : Standards for Granting Permits	All emission units	Emission of pollutants	April 17, 1997
<u>RULE 206</u> : Conditional Approval of Authority to Construct or Permit to Operate	All emission units	Applicability of relevant Rules	October 15, 1991

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
<u>RULE 208</u> : Action on Applications – Time Limits	All emission units. Not applicable to Part 70 permit applications.	Addition of new equipment or modification to existing equipment.	April 17, 1997
<u>RULE 212</u> : Emission Statements	All emission units	Administrative	October 20, 1992
<u>RULE 301</u> : Circumvention	All emission units	Any pollutant emission	October 23, 1978
<u>RULE 302</u> : Visible Emissions	All emission units	Emissions that can injure, damage or offend.	June 1981
<u>RULE 303</u> : Nuisance	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 304</u> : Particulate Matter - Northern Zone	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 306</u> : Dust and Fumes - Northern Zone	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 309</u> : Specific Contaminants	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 311</u> : Sulfur Content of Fuel	All combustion units	Use of fuel containing sulfur	October 23, 1978
<u>RULE 312</u> : Open Fires	Fires	Emissions that can injure, damage or offend.	October 2, 1990
<u>RULE 313</u> : Fires Set Under Public Authority	Fires	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 315</u> : Gasoline Specifications	Gasoline distributors, and sellers on VAFB	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 316</u> : Storage and Transfer of Gasoline	Gasoline distributors, and sellers on VAFB	Emissions that can injure, damage or offend.	January 15, 2009
<u>RULE 317</u> : Organic Solvents	Materials containing organic solvents	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 321</u> : Solvent Cleaning Operations	Materials containing organic solvents	Emissions that can injure, damage or offend.	June 21, 2012
<u>RULE 322</u> : Metal Surface Coating Thinner and Reducer	Metal Surface Coating Operations.	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 323</u> : Architectural Coatings	Architectural Coating Operations	Emissions that can injure, damage or offend.	November 15, 2001
<u>RULE 324</u> : Disposal and Evaporation of Solvents	Materials containing organic solvents	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 337</u> : Surface Coating of Aircraft or Aerospace Vehicle Parts and Products	Aerospace vehicle coating operations	Emissions that can injure, damage or offend.	June 21, 2012

Generic Requirements	Affected Emission Units	Basis for Applicability	Adoption Date
<u>RULE 370</u> : Potential to Emit - Limitations for Part 70 Sources	All emission units	Emission of pollutants	January 20, 2011
<u>RULE 505</u> : Breakdown Conditions	All emission units	Breakdowns where permit limits are exceeded or rule requirements are not complied with.	October 23, 1978
<u>RULE 603</u> : Emergency Episode Plans	Stationary sources with PTE greater than 100 tpy	VAFB Project PTE is greater than 100 tpy.	June 15, 1981
<u>Rule 801</u> : New Source Review	All emission units	Addition of new equipment or modification to existing equipment.	April 17, 1997
<u>Rule 802</u> : Nonattainment Review	All emission units	Emission of pollutants	April 17, 1997
<u>Rule 803</u> : Prevention of Significant Deterioration	All emission units	Emission of pollutants	April 17, 1997
<u>Rule 804</u> : Emission Offsets	All emission units	Emission of pollutants	April 17, 1997
<u>Rule 805</u> : Air Quality Impact and Modeling	All emission units	Emission of pollutants	April 17, 1997
<u>Rule 806</u> : Emission Reduction Credits	All emission units	Applications to generate ERC Certificates.	April 17, 1997
<u>Rule 810</u> : Federal Prevention of Significant Deterioration (PSD)	All emission units	Emission of pollutants	January 20, 2011
<u>Rule 901</u> : New Source Performance Standards (NSPS)	All emission units	New or modified units	May 16, 1996
<u>Rule 1301</u> : General Information	All emission units	VAFB Project is a major source.	January 20, 2011
<u>Regulation XIII (Rules 1302 – 1305)</u> : Part 70 Permitting	All emission units	VAFB Project is a major source.	November 9, 1993

**Table 3.2 Unit Specific Federally Enforceable District Rules**

<b>Unit-Specific Requirements</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>	<b>Adoption Date</b>
<u>RULE 326</u> : Storage of Reactive Organic Compound Liquids	Storage Tanks	TVP > 0.5 psia	December 14, 1993
<u>RULE 330</u> : Surface Coating of Metal Parts and Products	Miscellaneous Units	Surface Coating of Metal Parts and Products	June 21, 2012
<u>RULE 333</u> : Control of Emissions from Reciprocating Internal Combustion Engines	See Attachment 10.3	ICE with rated brake horsepower greater than 50.	June 19, 2008
<u>RULE 342</u> : Control of Oxides of Nitrogen from Boilers, Steam Generators and Process Heaters	See Attachment 10.2	Boilers with rated heat inputs greater than or equal to 5.0 MMBtu/hr	April 17, 1997
<u>RULE 343</u> : Petroleum Storage Tank Degassing	Tank degassing operations	Underground and aboveground storage tanks	December 14, 2012
<u>RULE 349</u> : Polyester Resin Operations	Polyester Resin Operations	Polyester Resin Operations	August 20, 1998
<u>RULE 351</u> : Surface Coating of Wood Products	Miscellaneous Units	Surface Coating of Wood Products	August 20, 1998
<u>RULE 352</u> : Natural Gas-Fired Fan-Type Central Furnaces and Small Water Heaters	Central Furnaces and Small Water Heaters	Central Furnaces and Small Water Heaters	October 20, 2011
<u>RULE 353</u> : Adhesives and Sealants	Miscellaneous Units	Adhesives and Sealants	June 21, 2012
<u>RULE 354</u> : Graphic Arts	Miscellaneous Units	VOC Limitations	June 28, 1994
<u>RULE 360</u> : Emissions from Oxides of Nitrogen from Large Water Heaters and Small Boilers	See Attachment 10.2	Units greater than or equal to 0.75 MMBtu/hr and less than or equal to 2.0 MMBtu/hr.	October 17, 2002
<u>RULE 361</u> : Small Boilers, Steam Generators, and Process Heaters	See Attachment 10.2	Units greater than 2.00 MMBtu/hr and less than 5.0 MMBtu/hr.	January 17, 2008

**Table 3.3 Non Federally Enforceable District Rules**

<b>Requirement</b>	<b>Affected Emission Units</b>	<b>Basis for Applicability</b>	<b>Adoption Date</b>
<u>RULE 210</u> : Fees	All emission units	Administrative	March 17, 2005
<u>RULE 310</u> : Odorous Organic Sulfides	All emission units	Emissions that can injure, damage or offend.	October 23, 1978
<u>RULE 345</u> : Control of Fugitive Dust from Construction and Demolition Activities	Miscellaneous Units	Fugitive Dust Emissions	January 21, 2010
<u>RULES 501-504</u> : Variance Rules	All emission units	Administrative	October 23, 1978
<u>RULES 506-519</u> : Variance Rules	All emission units	Administrative	October 23, 1978

## 4.0 Engineering Analysis

### 4.1. General

The engineering analyses performed for this permit were limited to the review of:

- Emission factors and calculation methods for each emissions unit
- Emission control equipment
- Emission source testing and sampling
- Process monitors needed to ensure compliance

### 4.2. External Combustion Units

VAFB operates natural gas-fired combustion units (boilers and water heaters) which provide hot water and space heating needs throughout the facility. Daily emissions are calculated using the daily heat input (MMBtu/day) times the emission factor (lb/MMBtu). Annual emissions are calculated using the annual heat input (MMBtu/yr) times the emission factor (lb/MMBtu) divided by 2000 lb/ton. Emission factors are listed in Table 5.1-2 (*Emission Factors*).

### 4.3. Reciprocating Internal Combustion Engines

Diesel-Fired IC Engines. Mass emission estimates are based on the maximum allowed hours for maintenance and testing. Emissions are determined by the following equations:

$$\begin{aligned}
 E1, \text{ lb/day} &= \text{Engine Rating (bhp)} * \text{EF (g/bhp-hr)} * \text{Daily Hours (hr/day)} * (\text{lb}/453.6 \text{ g}) \\
 E2, \text{ tpy} &= \text{Engine Rating (bhp)} * \text{EF (g/bhp-hr)} * \text{Annual Hours (hr/yr)} * (\text{lb}/453.6 \text{ g}) * (\text{ton}/2000 \text{ lb})
 \end{aligned}$$

The emission factors (EF) were chosen based on each engine's rating and age. Unless engine specific data was provided, default emission factors are used as documented on the District's webpage at [http://www.sbcapcd.org/eng/atcm/dice/dice\\_efs.htm](http://www.sbcapcd.org/eng/atcm/dice/dice_efs.htm). Emission factors are listed in Table 5.2-2 (*Emission Factors*). Additionally, the engines are subject to daily and annual operating hour limits. Operating hour limits are listed in Table 5.1-1, (*Equipment Operating Description*).

*Firewater Pumps*. The firewater pump engines identified in this permit must comply with NFPA

25. Since the NFPA 25 does not specify an upper limit on the hours to comply with the maintenance and testing requirements, in-use firewater pumps do not have a defined potential to emit restricting their operation. The ATCM does require that the hours of operation be monitored with a non-resettable hour meter, that CARB Diesel Fuel be used (or approved alternative) and that detailed records of use be recorded and reported.

#### **4.4. Turbines**

Five turbines provide the source of electric power needed to launch missiles. The turbines can be operated on natural gas or diesel. Emissions are based on the emission factors and operating parameters listed in Table 5.1-1.

There are two emission scenarios:

- Scenario 1: Operation exclusively on natural gas, with a fuel consumption of 148.36 MMscf/quarter.
- Scenario 2: Operation on two fuels, 123.79 MMscf/quarter of natural gas and 55,511 gallons of fuel oil #2.

The worst case emissions is as follows:

- a. The worst case hourly emissions occur when fuel oil #2 is combusted in the turbines.
- b. The worst case annual emissions for NO<sub>x</sub>, NMHC, ROC, PM and PM10 occur when the turbines are fired exclusively on natural gas.
- c. The worst case annual emissions for CO and SO<sub>x</sub> occur when the turbines are fired on both fuels.

#### **4.5. Bulk Fuel Storage**

Emission factors are based on detailed emission calculations submitted by VAFB with the application for Authority to Construct 8686 dated September 12, 1991. The worst case-operating scenario is based on operation 365 days/year and a fuel (RP-1) throughput of 114,000 gallons/year.



#### **4.6. Abrasive Blasting**

- 4.6.1. Emissions are calculated based on information provided in the permit application and District standardized assumptions for filter control efficiency and PM<sub>10</sub> fraction. No other criteria pollutants are emitted from this abrasive blasting operation. See Attachment 10.10 for the detailed emission calculations. These emissions define the potential to emit (PTE) for the permitted equipment.

The particulate emission factor used was from the Bay Area Air Quality Management District's permit handbook, Chapter 11 Abrasive Blasting (Confined). The fraction of PM<sub>10</sub>:PM is assumed to be 1.0. The "worst case" factor, which is for sand, was used in the calculations.

#### **4.7. Coatings**

- 4.7.1. Coatings containing ROCs are applied to metal and wood surfaces in an enclosed booth via paint sprayers. Filters provide some particulate matter and nuisance control. Exhaust makeup fans are used to provide airflow through the air booth. The spray booth is equipped with overspray filters. ROC emissions are controlled by using compliant coatings required by District Rules 330 and 351. Some reduction in particulates is achieved via filters in the spray booth.

Emission Calculations (Device 114277 various locations at VAFB): The potential to emit is based on worst case emissions of 24 lbs/day and 3.17 tons/year. The daily limit of 24 lbs/day is based on an 8 hour operating scenario which was chosen when ATC/PTO 10156 was issued in 1999 to allow flexibility without triggering any BACT or AQIA requirements. The annual emission limit is calculated as follows:

$$(24 \text{ lbs/day}) * (22 \text{ days/month}) * (12 \text{ months/year}) * (1 \text{ ton}/2,000 \text{ lbs}) = 3.17 \text{ tons ROC/year}$$

Emission Calculations (Device #114257 - Various Delta II Locations Operated by ULA on VAFB): The potential to emit of 24.00 lb/day was requested in the application. The annual potential to emit was calculated by the following:

$$3.12 \text{ TPY} = (24 \text{ lb/day}) * (21.7 \text{ days/month}) * (12 \text{ months/year}) * (1 \text{ ton}/2000 \text{ lb})$$

The quarterly potential to emit was calculated by the following:

$$0.78 \text{ TPQ} = (3.12 \text{ TPY}) * (1 \text{ year}/4 \text{ quarters})$$

Emission Calculations: (Device #110309 various locations at VAFB): The potential to emit is based on worst case emissions of 1.00 ton/year and 0.25 tons/qtr. The daily limit is based on the worst case scenario that all of one quarter's emissions occur in one month. The daily emission limit is calculated as follows:

$$(500 \text{ lbs/month}) / (22 \text{ days/month}) = 22.73 \text{ lbs ROC/day}$$

#### **4.8. Solvent Usage**

The reasonable worst case-operating scenario for solvent usage is 8 hours/day, 22 days per month, 12 months per year.

The potential to emit for operations in place prior to October 1, 2004 is based on worst case emissions of 24 lbs/day and 3.17 tons/year. The daily limit of 24 lbs/day is based on an 8 hour operating scenario which was chosen when ATC/PTO 10156 was issued in 1999 to allow flexibility without triggering any BACT or AQIA requirements. The annual emission limit is calculated as follows:

$$(24 \text{ lbs/day}) * (22 \text{ days/month}) * (12 \text{ months/year}) * (1 \text{ ton}/2,000 \text{ lbs}) = 3.17 \text{ tons ROC/year}$$

The potential to emit for operations begun after to October 1, 2004 is based on worst case emissions of 1.00 ton/year and 0.25 tons/qtr. The daily limit is based on the worst case scenario that all of one quarter's emissions occur in one month. The daily emission limit is calculated as follows:

$$(500 \text{ lbs/month}) / (22 \text{ days/month}) = 22.73 \text{ lbs ROC/day}$$

The NEI from operations begun after October 1, 2004 has been offset.

#### **4.9. *Landfill Gas***

Landfill Gas emissions are calculated using EPA's landfill gas emission model (LandGEM) version 3.02 using available and estimated historical waste data.

#### **4.10. *Mobile Vehicle Fueling***

Gasoline dispensing emissions are calculated based on loading, breathing, refueling, and spillage emission factors and the permitted gasoline throughput.

#### **4.11. *Hydrogen Sulfide Scrubbing***

The operating scenario is summarized as follows:

1. Operating schedule = 8,760 hours per year.
2. Average inlet H<sub>2</sub>S concentration in water = 1.25 mg/l
3. All of the H<sub>2</sub>S is emitted into the air at maximum throughput = 6 MGD.

The potential to emit is based on the following calculation:

$$\begin{aligned} 62.63 \text{ lb/day} &= (1.25 \text{ mg/liter}) (\text{lb}/453,592 \text{ mg}) (\text{liter}/0.264 \text{ gal}) (6 \text{ MMGal/day}) \\ 11.43 \text{ tons/year} &= (62.63 \text{ lb/day}) (365 \text{ days/year}) (\text{ton}/2,000 \text{ lbs}) \end{aligned}$$

#### **4.12. *Hypergolic Fuel Storage and Handling***

Permitted emissions are based on detailed emission calculations submitted by VAFB with the ATC applications for this equipment. The equipment was source tested and found to be in compliance with the permitted emissions. The emission factors are based on the Air Resources Board's CP-201, *Certification Procedure for Vapor Recovery Systems at Dispensing Facilities*, amended February 9, 2005, CAPCOA's December 1997 *Gasoline Service Station Industrywide Risk Assessment Guidelines* and Section 5.2 of USEPA's AP-42 (1/95).

**GDF ROC Emission Factors for Underground Tanks  
w/ Phase I EVR and Phase II (Non-EVR and EVR) and Vent Valves**

	<b>SBCAPCD Approved</b>	
	<i>Phase I EVR and Phase II Non-EVR</i>	<i>Phase I EVR and Phase II EVR</i>
	lb/1000 gal	lb/1000 gal
Loading	0.15	0.15
Breathing	0.25	0.00 <sup>1</sup>
Refueling	0.42	0.38
Spillage	0.42	0.24
<b>Total</b>	<b>1.24</b>	<b>0.77</b>

#### **4.13. Process Monitoring**

4.13.1 *Turbines.* Monitoring of the equipment's operational limits are required to ensure that these are enforceable. This is accomplished by monitoring the hours of operation of each pony starter engine and the volumes of natural gas and fuel oil #2 burned by the turbines. The volume of water injected into each turbine along with emissions from each turbine are continuously monitored and telemetered back to the District. The continuous emission monitoring system is equipped with alarms that inform the operator if any permitted limit has been exceeded. Also this facility is subject to three monitoring plans (and any subsequent updates) that are incorporated into this permit to operate by reference:

- *Fuel Use Monitoring Plan (FUMP) April 12, 2010*
- *SVPP Continuous Emissions Monitoring (CEMS) Plan, June 2010*
- *SVPP Fugitive Hydrocarbon I&M Program, October 23, 2002*

4.13.2 *Internal Combustion Engines.* Non-resettable hour meters are required on each internal combustion engine to monitor operational hours.

4.13.3 *External Combustion Units.* The volume of fuel gas used in the external combustion units is determined by fuel meter or hours of operation (hrs times heat input rating divided by heating value of the fuel). Alternatively, the permittee has the option of using the *Default Method* (the volume of natural gas fuel used is reported as permitted annual heat input limit for the unit). The specific fuel monitoring method for each unit is listed in Attachment 10.2 (*External Combustion Equipment Operational Requirements*).

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<sup>1</sup> Emissions from breathing are included in the refueling emission factor per Table 4-1 of ARB's CP-201 (February 9, 2005)

#### 4.14. Best Available Control Technology (BACT)

The following BACT applies:

4.14.1 *Turbines*: The following BACT measures apply to the turbine generators:

Emission Units	Pollutant	BACT Technology
Turbines	NO <sub>x</sub>	Water Injection
	SO <sub>2</sub>	Use of PUC-quality natural gas. Fuel oil shall only be used when gas is curtailed. Use of low sulfur fuel oil (< 0.2% sulfur by weight).
	PM	Limit fuel oil fired operations.
	HC and CO	Oxidation catalyst used to reduce turbine exhaust emissions (NMHC based permitted emission limit). Fugitive hydrocarbon inspection and maintenance (I&M) program instituted for additional ROC control.

4.14.2 *External Combustion Units*: The following BACT measures apply to the external combustion units listed:

Emission Units	Pollutant	BACT Technology	BACT Performance Standard
114600, 114601, 114602, 114603	NO <sub>x</sub>	Camus DynaFlame Low - NO <sub>x</sub> burner	NO <sub>x</sub> emissions no greater than 15 ppmv at 3% O <sub>2</sub> .

4.14.3 *Hypergolic Storage Facility (Device #104788)*: The BACT threshold in force at the time (2.5 lbs NO<sub>x</sub>/hour) was exceed by the permitted emissions of 2.59 lbs NO<sub>x</sub>/hour. An Oxidizer Vapor Scrubbing System (OVSS) with a 99-percent control efficiency is considered to be BACT.

4.14.4 *Fuel Storage Tanks*: The following BACT measures apply to the subject fuel storage tanks:

Device ID#	Emission Source	BACT Measure
109896	JP-8 Fuel Tank 1702	Primary and secondary seals covered by a fixed roof.
109897	JP-8 Fuel Tank 1703	Primary and secondary seals covered by a fixed roof.
104469	RP-1 Propellant Tank	gaseous nitrogen blanket pressure of 5 to 25 psig is maintained in the Ready Storage Vessel.

#### 4.15. Source Testing/Tuning/Sampling

4.15.1 *Turbines*: Compliance source testing of the turbines is required annually with September as the anniversary date. Fuel oil-fired source testing is required for any turbine that uses fuel oil for more than 200 hours in the 12 months prior to the source test anniversary date. Source testing is performed in accordance with Table 4.15.1 below. In addition to compliance source testing a Relative Accuracy Test Audit (RATA) is required annually to verify performance of the CEMS.

4.15.2 *External Combustion Equipment*: Source testing is required to be conducted on specific external combustion units. The units required to be tested, source testing frequency, and anniversary dates

are listed in Attachment 10.2 (*External Combustion Equipment Operational Requirements*). Table 4.15.2 below details the pollutants, parameters and methods for testing. VAFB is required to follow the District *Source Test Procedures Manual* (May 24, 1990 and all updates) for all units required to be tested.

- 4.15.3 *Internal Combustion Engine:* The training engine in Building 7425 is subject to quarterly portable analyzer monitoring pursuant to Rule 333. Based on the results of portable analyzer monitoring, a source test may be required.
- 4.15.3 *VRS Compliance Testing:* Testing of the gasoline tank vapor recovery system is required on a routine basis. Test procedures are summarized in Attachment 10.6 (*Vapor Recovery System Testing Requirements*).
- 4.15.4 *Rule 342 Tuning Procedures:* External combustion units granted the low use exemption provided by Rule 342 are required to be tuned-up at least once every 12 months in accordance with the tuning procedures listed in Attachment 1 to Rule 342. The units that require annual tuning are listed in Attachment 10.2 (*External Combustion Equipment Operational Requirements*).
- 4.15.5 *Rule 361 Tuning Procedures:* External combustion units subject to this rule may be subject to the tuning requirements of the rule. If required, tune-ups must be performed at least twice every 12 months in accordance with the tuning procedures listed in Attachment 1 to Rule 361. Additionally, new *stacked* units must be tuned once per year. The units that require tuning per this rule are listed in Attachment 10.2 (*External Combustion Equipment Operational Requirements*).
- 4.15.6 *Sampling Requirements.* Sampling for fuel sulfur content is required on a periodic basis.

**Table 4.15.1. Turbine Source Test Requirements**

<b>Turbine / Fuel Type Combination</b>	<b>Pollutant or Parameter</b>	<b>Concentration in Exhaust<sup>(c)</sup> (ppmv per turbine)</b>	<b>Max. Exhaust Emission Rate<sup>(d)</sup> (lb/hr-turbine)</b>	<b>Other</b>
Any and all turbines using Natural Gas	NO <sub>x</sub>	22	3.82	
	NMHC	17	0.78	
	CO	Not Applicable	4.57	
Fuel oil-fired source testing required for any individual turbine that uses fuel oil in excess of 200 hours for the calendar year.	NO <sub>x</sub>	32	5.60	
	NMHC	23	1.08	
	CO	Not Applicable	17.00	
	SO <sub>x</sub> as SO <sub>2</sub>	42	8.17	
	PM	Not Applicable	0.52	
<p>Notes:</p> <p>(a) All emission and process parameter testing shall be performed consistent with SBC District protocol.</p> <p>(b) All source tested values shall be reported at standard conditions (60 deg. F and 1 atm), or as otherwise specified herein.</p> <p>(c) Concentration limits by volume, dry basis, corrected to 15% oxygen, regardless of turbine load.</p> <p>(d) Except for NMHC, mass emission limits are per turbine based on 100% turbine rated load. NMHC mass emission limits most closely correlate with 50% turbine rated load.</p> <p>(e) An annual source and RATA is not required for any turbine that operates less than 200 hours in the 12 months prior to the source test anniversary, unless it has not been source tested for two consecutive years. At a minimum, a source test and RATA shall be required at least every 3 calendar years for each turbine.</p> <p>(f) For each turbine subject to annual source testing, the turbine shall be tested at two District-approved representative loads (e.g., 50% and 100%) if it operates above an average of 60 percent, or less than an average of 85 percent of its <i>Rated Operating Output</i> (ROO) over the last 12 months. <math>ROO = (\text{Actual MW-hr produced over last 12 months}) * (100\%) \div (3.05 \text{ MW} * \text{actual operating hours for last 12 months})</math>. A minimum of three emissions compliance test data points shall be obtained for any load tested. For each fuel tested per turbine unit, compliance at each load will be based upon the average of three valid data points.</p> <p>(g) For RATA testing, a minimum of nine test runs shall be completed. RATA runs may be run contemporaneously with emission compliance runs. If a turbine is to be tested at two loads, the split of runs at each given load will be determined each year by the District based on the turbine operations in the preceding year.</p>				

**Table 4.15.2. Source Testing Requirements for External Combustion Units**

<b>Emission &amp; Limit Test Points</b>	<b>Pollutants</b>	<b>Parameters</b>	<b>Test Methods <sup>(a)</sup></b>
External Combustion Unit Stacks (b)(c)(d)(e)	NO <sub>x</sub> CO ROC Sampling Point Det. Stack Gas Flow Rate O <sub>2</sub> , CO <sub>2</sub> , Dry MW Moisture Content Stack Temperature	ppmv, lb/hr ppmv, lb/hr ppmv, lb/hr     °F	EPA Method 7E, ARB 100 EPA Method 10, ARB 100 EPA Method 18 EPA Method 1 EPA Method 2 or 19 EPA Method 3 EPA Method 4 Calibrated Thermocouple
Fuel Gas <sup>(h)</sup>	Fuel Gas Flow Rate Higher Heating Value Total Sulfur Content Gas Composition	Btu/lb Ppmw CHONS%, F-factor	Fuel Gas Meter <sup>(f)</sup> ASTM D 1826 or 3588 ASTM D 1072 or 5504 <sup>(g)</sup> ASTM 1945

Notes:

- (a) Alternative methods may be acceptable on a case-by-case basis.
- (b) The emission rates shall be based on EPA Methods 2 and 4, or Method 19 along with the heat input rate.
- (c) For NO<sub>x</sub>, CO and ROC and O<sub>2</sub> a minimum of three 40-minute runs shall be obtained during each test.
- (d) See Tables 1 and 2 for the emission standards to be measured against during the test. Measured NO<sub>x</sub> and CO shall not exceed the limit specified in the applicable Rule (e.g., Rule 361, Rule 342).
- (e) All emission determinations shall be made in the as-found operating condition, at the maximum attainable firing rate to be approved by the source test plan. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer.
- (f) Fuel meter shall meet the calibration requirements prior to testing.
- (g) Total sulfur content fuel samples shall be obtained using EPA Method 18 with Tedlar Bags (or equivalent) equipped with Teflon tubing and fittings. Turnaround time for laboratory analysis of these samples shall be no more than 24 hours from sampling.
- (h) Fuel gas heating value and composition are optional for Rule 361 applicable units. Sulfur content only required for units not run on utility purchased gas. For units rated at 5 MMBtu/hr or greater, heating value is required in all cases, but gas composition not required if Method 2 is used for stack flow.

**Table 4.15.3 SOURCE TEST REQUIREMENTS(a)(b)(e)(f)**

Device ID(d)	Pollutant or Parameter (h)	Exhaust Concentration Limit (c) (ppmv)	Max. Exhaust Emission Rate(g) (lb/hr)	Other
Building 7425, ICE #112253	NO <sub>x</sub>	500	3.15	Measure at Maximum Achievable Load <sup>(e)</sup>
	CO	4,500	3.88	
	ROC	750	3.15	
	Fuel Analysis			Measure
	Fuel Flow, gal/hr			Measure
	Exhaust Oxygen			Measure
	Fuel Injection Timing, (BTDC)			Document setting used in source test
Notes: (a) All emission and process parameter testing shall be performed consistent with SBCAPCD protocol. (b) All source tested values shall be reported at standard conditions (60 deg. F and 1 atm), or as otherwise specified herein. (c) Referenced to a corrected 15.0% oxygen concentration in exhaust. (d) As specified in the permit equipment list. (e) Emission source test shall be performed at maximum achievable load as approved by APCD. The load shall be addressed in the Source Test Plan. (f) Source testing will establish values for emissions calculations and Rule 333 I&M purposes. (g) Based on permitted daily emissions divided permitted daily hours of operation. (h) ROC and CO testing are required if triggered by Rule 333.I.8.				



#### 4.16 **Part 70 Engineering Review: Hazardous Air Pollutant Emissions**

Hazardous air pollutant (HAP) emissions for the Vandenberg Air Force Base are calculated based on various HAP emission factors and the permitted operational limits and maximum facility design throughputs of this permit. HAP emission factors are shown in Table 5.7. Equipment specific potential annual HAP emissions, based on the worst-case scenario listed in Section 5.3 of this permit, are shown in Tables 5.8-1, 5.8-2, 5.8-3, 5.8-4, and 5.8-5. Stationary Source potential annual HAP emissions are summarized in Table 5.9. These emissions are estimates only, they are not limitations.

##### 4.16.1 Emission Factors for HAP Potential Emissions:

Natural Gas-fired External Combustion Units: The HAP emission factors for natural gas fired external combustion equipment (boilers, water heaters, etc.) were obtained from the Ventura County Air Pollution Control District *AB2588 Combustion Emission Factors for Natural Gas Fired External Combustion Equipment* (May, 2001) for reactive organics, and USEPA AP-42 Table 1.4-4, *Emission Factors for Metals from Natural Gas Combustion* (July, 1998) for metals.

LPG-fired External Combustion Units: The HAP emission factors for LPG fired external combustion equipment (boilers, water heaters, etc.) were obtained from South Coast Air Quality Management District *Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, Supplemental Instructions*, Table B-3, *Default EF for LPG, Butane, or Propane Combustion* for reactive organics, and USEPA AP-42 Table 1.4-4, *Emission Factors for Metals from Natural Gas Combustion* (July, 1998) for metals.

Diesel-fired IC engines: The HAP emission factors for diesel fired IC engines were obtained from the Ventura County Air Pollution Control District *AB2588 Combustion Emission Factors for Diesel Combustion* (May, 2001). A brake specific fuel consumption of 7,500 Btu/bhp-hr was used for all engines.

Natural Gas-fired Turbines: The HAP emission factors for the turbine engines when fired on natural gas are from USEPA AP-42, Table 3.1-3, *Emission Factors for Hazardous Air Pollutants from Natural Gas-Fired Stationary Gas Turbines* (April, 2000).

Diesel-fired Turbines: The HAP emission factors for the turbine engines when fired on diesel fuel are from USEPA AP-42, Table 3.1-4, *Emission Factors for Hazardous Air Pollutants from Distillate Oil-Fired Stationary Gas Turbines* (April, 2000) for reactive organics, and USEPA AP-42, Table 3.1-5, *Emission Factors for Metallic Hazardous Air Pollutants from Distillate Oil-Fired Stationary Gas Turbines* (April, 2000) for metals.

Bulk Fuel Storage: The HAP emission factors for RP-1 bulk fuel storage were obtained from the HAP weight fractions found in the material safety data sheet (MSDS) for RP-1. The HAP emission factors for JP-8 bulk fuel storage were obtained from the USEPA TANKS Emissions Estimation software.

Abrasive Blasting: There are no HAP emissions associated with the abrasive blasting activities at Vandenberg Air Force Base.

Coatings: The HAP emission factors for base-wide coating operations were calculated by dividing the 2008 AB-2588 reported coating HAP emission totals by the 2008 reported coating

ROC emission total. This resulted in HAP emission factors in units of lb/lb ROC for each HAP contained in the specific coatings used at VAFB.

*Solvent Emissions:* Photochemically reactive and non-photochemically reactive solvents are assumed to contain 5% benzene, 5% toluene and 5% xylene.

*Landfill Gas:* The HAP emissions from the landfill gas were calculated using the USEPA's Landfill Gas Emissions Model (LandGEM).

*Mobile Vehicle Fueling:* The HAP emission factors for gasoline mobile vehicle fueling were obtained from South Coast Air Quality Management District's *Supplemental Instructions for Liquid Organic Storage Tanks and References*, Appendix 3, *Default Toxic Air Contaminant Profile for Select Petroleum Products*. The HAP emission factors for E-85 mobile vehicle fueling were assumed to be 15% of the gasoline emission factors, as E-85 fuel is comprised of 85% ethanol and 15% gasoline. The HAP emission factors for kerosene mobile vehicle fueling were obtained from the HAP weight fractions found in the material safety data sheet (MSDS) for kerosene.

*Degasifiers:* The degasifiers at Vandenberg Air Force Base are used to remove hydrogen sulfide ( $H_2S$ ) from water pumped from four wells on the base. Hydrogen sulfide is not considered a Hazardous Air Pollutant (HAP), therefore there are no HAP emissions associated with the degasifiers.

*Scrubbers:* The HAP emission factors for the Aerozine-50 scrubbers were calculated based on the chemical makeup of Aerozine-50 fuel (50% hydrazine, 50% 1,1-dimethylhydrazine). There are no HAP emissions associated with the nitrogen tetroxide scrubbers, as nitrogen tetroxide is not considered a HAP.

*Microwave Reactors:* The HAP emission factors for the hypergolic fuel microwave reactor were calculated based on the control efficiency specified by VAFB and the chemical makeup of the hypergolic fuel (methyl hydrazine). There are no HAP emissions associated with the hypergolic oxygen microwave reactor, as the hypergolic oxygen does not contain any HAP compounds.

## 5.0 Emissions

### 5.1. General

Permitted emissions for each emissions unit are based on the equipment's potential-to-emit (as defined by Rule 102). Section 5.2 identifies the pollutants for which each emissions unit was analyzed. Section 5.3 identifies the emission units and emission tables, and section 5.4, greenhouse gas emissions determination methodology. Section 5.5 describes the facility NEI. In order to accurately track the emissions from a facility, the District uses a computer database.

### 5.2. Permitted Emission Limits - Emission Units

Each emissions unit associated with the facility was analyzed to determine the potential-to-emit for the following pollutants:

- Nitrogen Oxides (NO<sub>x</sub>)<sup>2</sup>
- Reactive Organic Compounds (ROC)
- Carbon Monoxide (CO)
- Sulfur Oxides (SO<sub>x</sub>)<sup>3</sup>
- Particulate Matter (PM)<sup>4</sup>
- Particulate Matter smaller than 10 microns (PM<sub>10</sub>)
- Greenhouse Gases (GHG as CO<sub>2E</sub>)

### 5.3. Permitted Emission Limits - Facility Totals

Permitted emissions are calculated for both short term (daily) and long term (annual) time periods. Section 4.0 (Engineering Analysis) provides a general discussion of the basic calculation methodologies and emission factors used. The reference documentation for the specific emission calculations, as well as detailed calculation spreadsheets, are provided in Section 4. Tables 5.1-1 through 5.1-4 provide the basic operating characteristics, emission factors and emissions for the external combustion equipment. Tables 5.2-1 through 5.2-4 provide the basic operating characteristics, emission factors and emissions for the internal combustion engines. Table 5.3 provides the total permitted short-term and permitted long-term emissions.

#### Daily and Annual Scenario:

- External Combustion Equipment
- Reciprocating Internal Combustion Engines
- Turbines
- Bulk Fuel Storage
- Abrasive Blasting
- Coatings
- Solvent Usage
- Landfill Gas
- Mobile Vehicle Fueling
- Hydrogen Sulfide Scrubbing
- Hypergolic Fuel Storage and Handling

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<sup>2</sup> Calculated and reported as nitrogen dioxide (NO<sub>2</sub>)

<sup>3</sup> Calculated and reported as sulfur dioxide (SO<sub>2</sub>)

<sup>4</sup> Calculated and reported as all particulate matter smaller than 100 µm

#### 5.4 *Greenhouse Gases*

GHG emissions from combustion sources are calculated using emission factors found in Tables C-1 and C-2 of 40 CFR Part 98 and global warming potentials found in Table A-1 of 40 CFR Part 98. CO<sub>2</sub> equivalent emission factors are calculated for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O individually, then summed to calculate a total CO<sub>2e</sub> emission factor. Annual CO<sub>2e</sub> emission totals are presented in short tons.

For IC engines, the emission factor in lb/MMBtu heat input is converted to g/bhp-hr output based on a standard brake-specific fuel consumption.

For natural gas combustion the emission factor is:

$$\begin{aligned}(53.02 \text{ kg CO}_2/\text{MMBtu}) (2.2046 \text{ lb/kg}) &= 116.89 \text{ lb CO}_2/\text{MMBtu} \\ (0.001 \text{ kg CH}_4/\text{MMBtu}) (2.2046 \text{ lb/kg})(21 \text{ lb CO}_{2e}/\text{lb CH}_4) &= 0.046 \text{ lb CO}_{2e}/\text{MMBtu} \\ (0.0001 \text{ kg N}_2\text{O}/\text{MMBtu}) (2.2046 \text{ lb/kg})(310 \text{ lb CO}_{2e}/\text{lb N}_2\text{O}) &= 0.068 \text{ lb CO}_{2e}/\text{MMBtu} \\ \text{Total CO}_{2e}/\text{MMBtu} &= 116.89 + 0.046 + 0.068 = 117.00 \text{ lb CO}_{2e}/\text{MMBtu}\end{aligned}$$

For diesel fuel combustion the emission factor is:

$$\begin{aligned}(73.96 \text{ kg CO}_2/\text{MMBtu}) (2.2046 \text{ lb/kg}) &= 163.05 \text{ lb CO}_2/\text{MMBtu} \\ (0.003 \text{ kg CH}_4/\text{MMBtu}) (2.2046 \text{ lb/kg})(21 \text{ lb CO}_{2e}/\text{lb CH}_4) &= 0.139 \text{ lb CO}_{2e}/\text{MMBtu} \\ (0.0006 \text{ kg N}_2\text{O}/\text{MMBtu}) (2.2046 \text{ lb/kg})(310 \text{ lb CO}_{2e}/\text{lb N}_2\text{O}) &= 0.410 \text{ lb CO}_{2e}/\text{MMBtu} \\ \text{Total CO}_{2e}/\text{MMBtu} &= 163.05 + 0.139 + 0.410 = 163.60 \text{ lb CO}_{2e}/\text{MMBtu}\end{aligned}$$

Converted to g/hp-hr:

$$(163.60 \text{ lb CO}_{2e}/\text{MMBtu})(453.6 \text{ g/lb})(7500 \text{ Btu/hp-hr})/1,000,000 = 556.58 \text{ g/hp-hr as CO}_{2e}$$

#### 5.5 *Net Emissions Increase Calculation*

Engines and small boilers were historically exempt from permit requirements, therefore new source review did not apply to these units. However, revisions to Rule 202 (Exemptions to Rule 201) lowered the thresholds for these exemptions. Equipment installed before the loss of exemptions does not contribute to the NEI of the stationary source. Equipment installed after the loss of exemptions does contribute to the NEI of the stationary source. The NEI calculation for the stationary source is provided in Attachment 10.6.

#### 5.5 *Part 70: HAP Potential to Emit Emission Estimates*

Total emissions of hazardous air pollutants (HAP) are computed for informational purposes only. HAP emission factors are shown in Table 5.4. Equipment specific potential annual HAP emissions, based on the operating scenarios listed in Table 5.1, are shown in Tables 5.5-1, 5.5-2, 5.5-3, 5.5-4, and 5.5-5. Stationary Source potential annual HAP emissions are summarized in Table 5.6.

**Table 5.1-1a. Operating Equipment Description - External Combustion**

Building	Location	Device ID	Operator ID	Fuel Type	Rating (MMBtu/hr)	Limit (MMBtu/day)	Limit (MMBtu/qtr)	Limit (MMBtu/yr)	HHV (Btu/scf)	Sulfur (ppmv S)
836	836 Lompoc St	111100	3872	NG	2.16	51.84	1,183	4,730	1,050	80.00
836	836 Lompoc St	111101	3873	NG	2.16	51.84	1,183	4,730	1,050	80.00
836	836 Lompoc St	111713	3049	NG	4.99	119.76	10,928	43,712	1,050	80.00
980	980 Mesa Rd	111714	1024	LPG	2.50	60.00	5,475	21,900	2,522	239.00
1819	1819 New South Rd	111722	3124	LPG	2.10	50.40	4,599	18,396	2,522	239.00
1900	1900 North Rd	4117	114600	LPG	4.00	96.00	8,760	35,040	2,522	239.00
1900	1900 North Rd	4118	114601	LPG	4.00	96.00	8,760	35,040	2,522	239.00
1900	1900 North Rd	4119	114602	LPG	4.00	96.00	8,760	35,040	2,522	239.00
1900	1900 North Rd	4120	114603	LPG	4.00	96.00	8,760	35,040	2,522	239.00
2520	2520 Nevada Ave	111723	3169	NG	5.00	119.88	10,939	43,756	1,050	80.00
2520	2520 Nevada Ave	111724	3170	NG	5.00	119.88	10,939	43,756	1,050	80.00
3000	3000 29th St	111712	3043	NG	2.50	59.98	5,473	21,891	1,050	80.00
3000	3000 29th St	111758	3044	NG	2.50	59.98	5,473	21,891	1,050	80.00
6523	137 13th St	111779	3204	NG	2.97	71.28	6,504	26,017	1,050	80.00
7000	816 13th St	111844	3934	NG	4.50	108.00	9,855	39,420	1,050	80.00
7000	816 13th St	111845	3935	NG	4.50	108.00	9,855	39,420	1,050	80.00
7025	1602 California Blvd	3283	113533	NG	1.26	30.12	2,748	10,994	1,050	80.00
7025	1602 California Blvd	3284	113534	NG	1.26	30.12	2,748	10,994	1,050	80.00
7425	386 10th St	111731	1052	NG	2.25	54.00	4,928	18,980	1,050	80.00
7437	1556 New Mexico Ave	111757	3174	NG	4.40	105.60	9,636	18,980	1,050	80.00
7523	156 10th Street	4060	113920	NG	2.00	47.98	4,378	17,511	1,050	80.00
7523	156 10th Street	4061	113921	NG	2.00	47.98	4,378	17,511	1,050	80.00
8510	1521 Iceland Ave	112964	3996	NG	2.00	48.00	4,380	17,520	1,050	80.00
8510	1521 Iceland Ave	112965	3997	NG	2.00	48.00	4,380	17,520	1,050	80.00
10711	433 Herado Ave	111748	3888	NG	3.70	88.80	8,103	18,980	1,050	80.00
12006	865 Washington Ave	112251	3930	NG	2.00	48.00	4,380	17,520	1,050	80.00
12006	865 Washington Ave	112252	3931	NG	2.00	48.00	4,380	17,520	1,050	80.00

Building	Location	Device ID	Operator ID	Fuel Type	Rating (MMBtu/hr)	Limit (MMBtu/day)	Limit (MMBtu/qtr)	Limit (MMBtu/yr)	HHV (Btu/scf)	Sulfur (ppmv S)
13137	Nebraska and Kansas Ave	111749	1117	NG	1.13	27.00	2,464	9,855	1,050	80.00
13137	Nebraska and Kansas Ave	111750	1118	NG	1.13	27.00	2,464	9,855	1,050	80.00
13330	781 "N" St	4099	113919	NG	1.68	40.32	3,679	14,717	1,050	80.00
13330	781 "N" St	4100	113918	NG	1.68	40.32	3,679	14,717	1,050	80.00
13850	338 South Dakota Ave	111753	3729	NG	1.99	47.76	4,358	17,432	1,050	80.00
13850	338 South Dakota Ave	111754	3730	NG	1.99	47.76	4,358	17,432	1,050	80.00
13850	338 South Dakota Ave	111755	3731	NG	1.99	47.76	4,358	17,432	1,050	80.00
23225	225 Bishop Rd	111756	1153	NG	4.25	102.00	9,308	37,230	1,050	80.00
23225	225 Bishop Rd	111874	1154	NG	4.25	102.00	9,308	37,230	1,050	80.00

**Table 5.1-2a. Emission Factors - External Combustion**

Building	Device ID	Operator ID	Nox (lb/MMBtu)	ROC (lb/MMBtu)	CO (lb/MMBtu)	Sox (lb/MMBtu)	PM (lb/MMBtu)	PM10 (lb/MMBtu)	GHG (lb/MMBtu)
836	111100	3872	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
836	111101	3873	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
836	111713	3049	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
980	111714	1024	0.147	0.0054	0.0824	0.017	0.0075	0.0075	117.00
1819	111722	3124	0.147	0.0054	0.0824	0.017	0.0075	0.0075	117.00
1900	4117	114600	0.018	0.0054	0.297	0.017	0.0075	0.0075	117.00
1900	4118	114601	0.018	0.0054	0.297	0.017	0.0075	0.0075	117.00
1900	4119	114602	0.018	0.0054	0.297	0.017	0.0075	0.0075	117.00
1900	4120	114603	0.018	0.0054	0.0824	0.017	0.0075	0.0075	117.00
2520	111723	3169	0.036	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
2520	111724	3170	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
3000	111712	3043	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
3000	111758	3044	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
6523	111779	3204	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
7000	111844	3934	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
7000	111845	3935	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
7025	3283	113533	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
7025	3284	113534	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
7425	111731	1052	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
7437	111757	3174	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
7523	4060	113920	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
7523	4061	113921	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
8510	112964	3996	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
8510	112965	3997	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
10711	111748	3888	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
12006	112251	3930	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
12006	112252	3931	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
13137	111749	1117	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
13137	111750	1118	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
13330	4099	113919	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
13330	4100	113918	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
13850	111753	3729	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
13850	111754	3730	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
13850	111755	3731	0.036	0.0054	0.297	0.0137	0.0075	0.0075	117.00
23225	111756	1153	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00
23225	111874	1154	0.098	0.0054	0.0824	0.0137	0.0075	0.0075	117.00

**Table 5.1-3a. Short Term Emissions - External Combustion**

Building	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	GHG (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	GHG (lb/day)
836	111100	3872	0.08	0.01	0.64	0.03	0.02	0.02	252.72	1.87	0.28	15.40	0.71	0.39	0.39	6065.28
836	111101	3873	0.08	0.01	0.64	0.03	0.02	0.02	252.72	1.87	0.28	15.40	0.71	0.39	0.39	6065.28
836	111713	3049	0.18	0.03	1.48	0.07	0.04	0.04	583.83	4.31	0.65	35.57	1.64	0.90	0.90	14011.92
980	111714	1024	0.37	0.01	0.21	0.04	0.02	0.02	292.50	8.82	0.32	4.94	1.02	0.45	0.45	7020.00
1819	111722	3124	0.31	0.01	0.17	0.04	0.02	0.02	245.70	7.41	0.27	4.15	0.86	0.38	0.38	5896.80
1900	4117	114600	0.07	0.02	1.19	0.07	0.03	0.03	468.00	1.73	0.52	28.51	1.63	0.72	0.72	11232.00
1900	4118	114601	0.07	0.02	1.19	0.07	0.03	0.03	468.00	1.73	0.52	28.51	1.63	0.72	0.72	11232.00
1900	4119	114602	0.07	0.02	1.19	0.07	0.03	0.03	468.00	1.73	0.52	28.51	1.63	0.72	0.72	11232.00
1900	4120	114603	0.07	0.02	0.33	0.07	0.03	0.03	468.00	1.73	0.52	7.91	1.63	0.72	0.72	11232.00
2520	111723	3169	0.18	0.03	0.41	0.07	0.04	0.04	584.42	4.32	0.65	9.88	1.64	0.90	0.90	14025.96
2520	111724	3170	0.18	0.03	1.48	0.07	0.04	0.04	584.42	4.32	0.65	35.60	1.64	0.90	0.90	14025.96
3000	111712	3043	0.09	0.01	0.74	0.03	0.02	0.02	292.38	2.16	0.32	17.81	0.82	0.45	0.45	7017.19
3000	111758	3044	0.09	0.01	0.74	0.03	0.02	0.02	292.38	2.16	0.32	17.81	0.82	0.45	0.45	7017.19
6523	111779	3204	0.11	0.02	0.88	0.04	0.02	0.02	347.49	2.57	0.38	21.17	0.98	0.53	0.53	8339.76
7000	111844	3934	0.16	0.02	1.34	0.06	0.03	0.03	526.50	3.89	0.58	32.08	1.48	0.81	0.81	12636.00
7000	111845	3935	0.16	0.02	1.34	0.06	0.03	0.03	526.50	3.89	0.58	32.08	1.48	0.81	0.81	12636.00
7025	3283	113533	0.12	0.01	0.10	0.02	0.01	0.01	146.84	2.95	0.16	2.48	0.41	0.23	0.23	3524.04
7025	3284	113534	0.12	0.01	0.10	0.02	0.01	0.01	146.84	2.95	0.16	2.48	0.41	0.23	0.23	3524.04
7425	111731	1052	0.22	0.01	0.19	0.03	0.02	0.02	263.25	5.29	0.29	4.45	0.74	0.41	0.41	6318.00
7437	111757	3174	0.43	0.02	0.36	0.06	0.03	0.03	514.80	10.35	0.57	8.70	1.45	0.79	0.79	12355.20
7523	4060	113920	0.07	0.01	0.59	0.03	0.01	0.01	233.88	1.73	0.26	14.25	0.66	0.36	0.36	5613.19
7523	4061	113921	0.07	0.01	0.59	0.03	0.01	0.01	233.88	1.73	0.26	14.25	0.66	0.36	0.36	5613.19
8510	112964	3996	0.07	0.01	0.59	0.03	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	5616.00
8510	112965	3997	0.07	0.01	0.59	0.03	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	5616.00
10711	111748	3888	0.36	0.02	0.30	0.05	0.03	0.03	432.90	8.70	0.48	7.32	1.22	0.67	0.67	10389.60
12006	112251	3930	0.07	0.01	0.59	0.03	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	5616.00
12006	112252	3931	0.07	0.01	0.59	0.03	0.02	0.02	234.00	1.73	0.26	14.26	0.66	0.36	0.36	5616.00
13137	111749	1117	0.11	0.01	0.09	0.02	0.01	0.01	131.63	2.65	0.15	2.22	0.37	0.20	0.20	3159.00
13137	111750	1118	0.11	0.01	0.09	0.02	0.01	0.01	131.63	2.65	0.15	2.22	0.37	0.20	0.20	3159.00
13330	4099	113919	0.06	0.01	0.50	0.02	0.01	0.01	196.56	1.45	0.22	11.98	0.55	0.30	0.30	4717.44
13330	4100	113918	0.06	0.01	0.50	0.02	0.01	0.01	196.56	1.45	0.22	11.98	0.55	0.30	0.30	4717.44
13850	111753	3729	0.07	0.01	0.59	0.03	0.01	0.01	232.83	1.72	0.26	14.18	0.65	0.36	0.36	5587.92
13850	111754	3730	0.07	0.01	0.59	0.03	0.01	0.01	232.83	1.72	0.26	14.18	0.65	0.36	0.36	5587.92
13850	111755	3731	0.07	0.01	0.59	0.03	0.01	0.01	232.83	1.72	0.26	14.18	0.65	0.36	0.36	5587.92
23225	111756	1153	0.42	0.02	0.35	0.06	0.03	0.03	497.25	10.00	0.55	8.40	1.40	0.77	0.77	11934.00
23225	111874	1154	0.42	0.02	0.35	0.06	0.03	0.03	497.25	10.00	0.55	8.40	1.40	0.77	0.77	11934.00

**Table 5.1-4a. Long Term Emissions - External Combustion**

Building	Device ID	Operator ID	NOx (ton/qr)	ROC (ton/qr)	CO (ton/qr)	SOx (ton/qr)	PM (ton/qr)	PM10 (ton/qr)	GHG (ton/qr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	GHG (ton/yr)
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836	111100	3872	0.02	0.00	0.18	0.01	0.00	0.00	69.18	0.09	0.01	0.70	0.03	0.02	0.02	276.73
836	111101	3873	0.02	0.00	0.18	0.01	0.00	0.00	69.18	0.09	0.01	0.70	0.03	0.02	0.02	276.73
836	111713	3049	0.20	0.03	1.62	0.07	0.04	0.04	639.29	0.79	0.12	6.49	0.30	0.16	0.16	2557.18
980	111714	1024	0.40	0.01	0.23	0.05	0.02	0.02	320.29	1.61	0.06	0.90	0.19	0.08	0.08	1281.15
1819	111722	3124	0.34	0.01	0.19	0.04	0.02	0.02	269.04	1.35	0.05	0.76	0.16	0.07	0.07	1076.17
1900	4117	114600	0.08	0.02	1.30	0.07	0.03	0.03	512.46	0.32	0.09	5.20	0.30	0.13	0.13	2049.84
1900	4118	114601	0.08	0.02	1.30	0.07	0.03	0.03	512.46	0.32	0.09	5.20	0.30	0.13	0.13	2049.84
1900	4119	114602	0.08	0.02	1.30	0.07	0.03	0.03	512.46	0.32	0.09	5.20	0.30	0.13	0.13	2049.84
1900	4120	114603	0.08	0.02	0.36	0.07	0.03	0.03	512.46	0.32	0.09	1.44	0.30	0.13	0.13	2049.84
2520	111723	3169	0.20	0.03	0.45	0.07	0.04	0.04	639.93	0.79	0.12	1.80	0.30	0.16	0.16	2559.74
2520	111724	3170	0.20	0.03	1.62	0.07	0.04	0.04	639.93	0.79	0.12	6.50	0.30	0.16	0.16	2559.74
3000	111712	3043	0.10	0.01	0.81	0.04	0.02	0.02	320.16	0.39	0.06	3.25	0.15	0.08	0.08	1280.64
3000	111758	3044	0.10	0.01	0.81	0.04	0.02	0.02	320.16	0.39	0.06	3.25	0.15	0.08	0.08	1280.64
6523	111779	3204	0.12	0.02	0.97	0.04	0.02	0.02	380.50	0.47	0.07	3.86	0.18	0.10	0.10	1522.01
7000	111844	3934	0.18	0.03	1.46	0.07	0.04	0.04	576.52	0.71	0.11	5.85	0.27	0.15	0.15	2306.07
7000	111845	3935	0.18	0.03	1.46	0.07	0.04	0.04	576.52	0.71	0.11	5.85	0.27	0.15	0.15	2306.07
7025	3283	113533	0.13	0.01	0.11	0.02	0.01	0.01	160.78	0.54	0.03	0.45	0.08	0.04	0.04	643.14
7025	3284	113534	0.13	0.01	0.11	0.02	0.01	0.01	160.78	0.54	0.03	0.45	0.08	0.04	0.04	643.14
7425	111731	1052	0.24	0.01	0.20	0.03	0.02	0.02	288.26	0.93	0.05	0.78	0.13	0.07	0.07	1110.33
7437	111757	3174	0.47	0.03	0.40	0.07	0.04	0.04	563.71	0.93	0.05	0.78	0.13	0.07	0.07	1110.33
7523	4060	113920	0.08	0.01	0.65	0.03	0.02	0.02	256.10	0.32	0.05	2.60	0.12	0.07	0.07	1024.41
7523	4061	113921	0.08	0.01	0.65	0.03	0.02	0.02	256.10	0.32	0.05	2.60	0.12	0.07	0.07	1024.41
8510	112964	3996	0.08	0.01	0.65	0.03	0.02	0.02	256.23	0.32	0.05	2.60	0.12	0.07	0.07	1024.92
8510	112965	3997	0.08	0.01	0.65	0.03	0.02	0.02	256.23	0.32	0.05	2.60	0.12	0.07	0.07	1024.92
10711	111748	3888	0.40	0.02	0.33	0.06	0.03	0.03	474.03	0.93	0.05	0.78	0.13	0.07	0.07	1110.33
12006	112251	3930	0.08	0.01	0.65	0.03	0.02	0.02	256.23	0.32	0.05	2.60	0.12	0.07	0.07	1024.92
12006	112252	3931	0.08	0.01	0.65	0.03	0.02	0.02	256.23	0.32	0.05	2.60	0.12	0.07	0.07	1024.92
13137	111749	1117	0.12	0.01	0.10	0.02	0.01	0.01	144.13	0.48	0.03	0.41	0.07	0.04	0.04	576.52
13137	111750	1118	0.12	0.01	0.10	0.02	0.01	0.01	144.13	0.48	0.03	0.41	0.07	0.04	0.04	576.52
13330	4099	113919	0.07	0.01	0.55	0.03	0.01	0.01	215.23	0.26	0.04	2.19	0.10	0.06	0.06	860.93
13330	4100	113918	0.07	0.01	0.55	0.03	0.01	0.01	215.23	0.26	0.04	2.19	0.10	0.06	0.06	860.93
13850	111753	3729	0.08	0.01	0.65	0.03	0.02	0.02	254.95	0.31	0.05	2.59	0.12	0.07	0.07	1019.80
13850	111754	3730	0.08	0.01	0.65	0.03	0.02	0.02	254.95	0.31	0.05	2.59	0.12	0.07	0.07	1019.80
13850	111755	3731	0.08	0.01	0.65	0.03	0.02	0.02	254.95	0.31	0.05	2.59	0.12	0.07	0.07	1019.80
23225	111756	1153	0.46	0.03	0.38	0.06	0.03	0.03	544.49	1.82	0.10	1.53	0.26	0.14	0.14	2177.96
23225	111874	1154	0.46	0.03	0.38	0.06	0.03	0.03	544.49	1.82	0.10	1.53	0.26	0.14	0.14	2177.96

**Table 5.1-1b. Operating Equipment Description - Reciprocating Internal Combustion**

Building	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr
64	Oak Mountain	112818	3980	Cummins	QST30-G5	1490	Diesel	Emergency Stand-by Generator	8	50
185	185 Honda Ridge Rd	107135	564	Caterpillar	3306BDI	314	Diesel	Emergency Stand-by Generator	24	30
185	185 Honda Ridge Rd	107136	567	Caterpillar	3306BDI	314	Diesel	Emergency Stand-by Generator	24	30
383	383 Lunar Rd	112688	3976	Cummins	QSL9-G2 NR3	364	Diesel	Emergency Stand-by Generator	8	50
425	425 Arguello Rd	106942	3007	Detroit Diesel	10437305	230	Diesel	Emergency Stand-by Generator	20	20
501	501 Perry Rd	106943	3008	Detroit Diesel	10637305	330	Diesel	Emergency Stand-by Generator	20	20
511	511 CDT Access Rd	114491	4005	Cummins	QSX15-G9-NR2	755	Diesel	Command Transmitter E/S	24	100
525	525 Coast Rd	104867	818	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20
525	525 Coast Rd	104868	820	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20
525	525 Coast Rd	104869	821	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20
525	525 Coast Rd	104870	822	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20
525	525 Coast Rd	104871	823	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20
529	529 Coast Road	114779	4297	Cummins	QST30-GN5-NR2	1,490	Diesel	Emergency Stand-by Generator	10	40
661	661 Santa Ynez Rd	107005	3009	Cummins	NT-855-G4	375	Diesel	Emergency Stand-by Generator	20	20
764	764 Napa Rd	107097	3540	Caterpillar	3456 DITA	685	Diesel	Emergency Stand-by Generator	24	50
14	830 Lompoc St	107000	3397	Cummins	KTA19-G3	685	Diesel	Emergency Stand-by Generator	20	20
830	830 Lompoc St	111766	3906	Cummins	QST30-G5	1490	Diesel	Emergency Stand-by Generator	8	50
906	906 Mesa Rd	106944	3012	Detroit Diesel	71237406	750	Diesel	Emergency Stand-by Generator	20	20
929	929 Wade Rd	111765	3927	Cummins	QSM11-G4	470	Diesel	Command Transmitter E/S	24	100
968	968 Mesa Rd	107146	3024	Cummins	6BTA-5.9	244	Diesel	Emergency Water Pump	0.5	34
968	968 Mesa Rd	107145	3025	Cummins	6BTA-5.9	244	Diesel	Emergency Water Pump	0.5	34
980	980 Mesa Rd	107068	3553	Cummins	QSM11-G1	395	Diesel	Emergency Stand-by Generator	24	50
1559	1559 Tonto Rd	107006	3050	Caterpillar	3406B	534	Diesel	Emergency Stand-by Generator	20	20
1561	1561 Tonto Rd	107031	3411	Caterpillar	3406	449	Diesel	Emergency Stand-by Generator	20	20
1581	1581 Tangair Rd	107037	3315	Cummins	4B3.9	61	Diesel	Emergency Stand-by Generator	20	20
1594	1594 Tangair Rd	113003	4039	John Deere	6068HF485	315	Diesel	Emergency Stand-by Generator	8	50
1604	1604 Tangair Rd	108889	3626	Detroit Diesel	6063-HV35	490	Diesel	Emergency Stand-by Generator	8	50
1618	1618 Aero Rd	106999	3318	Cummins	KTA19-G4	755	Diesel	Emergency Stand-by Generator	20	20
1629	1629 Aero Rd	106998	3317	Cummins	KTA19-G4	755	Diesel	Emergency Stand-by Generator	20	20
1639	1639 Tangair Rd	106948	3390	Detroit Diesel	8123-7305	850	Diesel	Emergency Stand-by Generator	20	20
1735	325 Airfield Rd	113916	4109	Volvo	TAD1641GE	757	Diesel	Emergency Stand-by Generator	8	50
1747	390 Airfield Rd	112689	3639	Cummins	QSX15-G9	755	Diesel	Emergency Stand-by Generator	24	50
1748	1748 Airfield Rd	107032	642	Cummins	6BT-5.9	166	Diesel	Emergency Stand-by Generator	20	20
1762	1762 13th St	107007	3183	Onan	6A3.4-G1	50	Diesel	Emergency Stand-by Generator	20	20
1764	1764 13th St	106939	643	Caterpillar	D330	78	Diesel	Emergency Stand-by Generator	20	20
1768	1768 Cross Rd	107085	3573	Cummins	QSX15-G9 NR2	750	Diesel	Emergency Stand-by Generator	24	50
1829	1829 Rhea Rd	107141	645	Caterpillar	3208	270	Diesel	Emergency Water Pump	0.5	34

Building	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr
1829	1829 Rhea Rd	107142	649	Caterpillar	3208	270	Diesel	Emergency Water Pump	0.5	34
1916	1916 El Rancho Rd	110696	3791	Caterpillar	C15 DITA	563	Diesel	Emergency Stand-by Generator	24	50
1917	1917 El Rancho Rd	107100	3548	Caterpillar	D3456	680	Diesel	Emergency Stand-by Generator	24	50
1919	1919 El Rancho Rd	111769	3921	John Deere	4045DF120	67	Diesel	Emergency Water Pump	24	50
1937	1937 El Rancho Rd	107088	3329	John Deere	6081AF001C	251	Diesel	Emergency Stand-by Generator	24	30
1962	1962 Tow Rd	107067	3549	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
1964	1964 Sercho Rd	107066	3550	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
1965	1965 Parquee Rd	110364	3790	Cummins	QSL9-G2	364	Diesel	Emergency Stand-by Generator	11	50
1971	1971 Mina Rd	107065	3551	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
1972	1972 Mina Rd	107064	3552	Cummins	6CTAA8.3G3	317	Diesel	Emergency Stand-by Generator	24	50
1980	1980 Oculito Rd	106399	3587	Cummins	6CTAA8.3-GS	299	Diesel	Emergency Stand-by Generator	8	50
2305	2305 33rd St	107143	655	Caterpillar	3306D1	231	Diesel	Emergency Water Pump	0.5	34
2500	2500 Arizona Ave	107126	3181	Caterpillar	3508DITA	1200	Diesel	Emergency Stand-by Generator	24	30
2520	2520 Nevada Ave	110738	3814	Cummins	QST30-G5	1490	Diesel	Emergency Stand-by Generator	8	50
3000	3000 29th St	107127	3420	Caterpillar	3508B-DITA	1592	Diesel	Emergency Stand-by Generator	24	30
6253	137 13th St	114383	4286	Cummins	QSK23-G7 NR2	1220	Diesel	Emergency Stand-by Generator	2	50
6510	85 13th St	110735	3815	Cummins	QSL9-G3	399	Diesel	Emergency Stand-by Generator	24	50
7425	386 10th St	112253	3936	Cummins	6TC8.3-G2	207	Diesel	Generator	7.5	600
8195	1522 Nevada Ave.	113917	4116	Cummins	QSL9-G2 NR3	364	Diesel	Emergency Stand-by Generator	8	50
8317	344 8th Street	114377	4123	Cummins	QSB7-G3 NR3	250	Diesel	Emergency Stand-by Generator	8	50
8401	1521 Utah Ave	110201	3747	Cummins	QSX15-G9	755	Diesel	Emergency Stand-by Generator	3	50
8510	1521 Iceland Ave	106946	3052	Caterpillar	3512STD	1592	Diesel	Emergency Stand-by Generator	20	20
10525	723 Nebraska Ave	107003	697	Cummins	MT-855-G4	375	Diesel	Emergency Stand-by Generator	20	20
10579	747 Nebraska Ave	107038	589	Cummins	KTTA19-G2	750	Diesel	Emergency Stand-by Generator	20	20
10660	1160 New Mexico Ave	107004	698	Cummins	L634T-I/10148C	64	Diesel	Emergency Stand-by Generator	20	20
11439	1172 Iceland Ave	107034	699	Cummins	6BT-5.9	166	Diesel	Emergency Stand-by Generator	20	20
12000	867 Washington Ave	107087	3185	Cummins	6CTAA8.3-G1	317	Diesel	Emergency Stand-by Generator	24	30
12000	867 Washington Ave	114696	4268	Caterpillar	C27	1,141	Diesel	Emergency Stand-by Generator	8	50
12006	865 Washington Ave	112255	3928	Cummins	QSK60-G6 NR2	2922	Diesel	Emergency Stand-by Generator	24	50
12006	865 Washington Ave	112256	3929	Cummins	QSK60-G6 NR2	2922	Diesel	Emergency Stand-by Generator	24	50
13850	338 South Dakota Ave	107035	3061	Cummins	NT-855-G6	435	Diesel	Emergency Stand-by Generator	20	20
21150	150 Cotar Rd	107137	705	Detroit Diesel	80837405	540	Diesel	Emergency Stand-by Generator	24	30
21203	203 Firefighter Rd	109236	3642	Cummins	QSX15-G9	755	Diesel	Command Transmitter E/S	8	100
23201	201 Bishop Rd	111125	3582	Cummins	4BT3.9-G4	99	Diesel	Emergency Stand-by Generator	24	30
23209	209 Bishop Rd	107144	706	Cummins	6BTA5.9-F2	130	Diesel	Emergency Water Pump	0.5	34
NA	Various Locations	113280	4010	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
NA	Various Locations	113281	4011	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
NA	Various Locations	113282	4012	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50

Building	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr
NA	Various Locations	113283	4013	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
NA	Various Locations	133284	4014	Cummins	QSB5-G3 NR3	145	Diesel	Emergency Stand-by Generator	8	50
SVPP	Coast And Honda Ridge Roads	104867	Starter Engine A.1	Deutz	BF6L913	160	Diesel	Turbine Starter Engine	1	20
SVPP	Coast And Honda Ridge Roads	104868	Starter Engine B.1	Deutz	BF6L913	160	Diesel	Turbine Starter Engine	1	20
SVPP	Coast And Honda Ridge Roads	104869	Starter Engine C.1	Deutz	BF6L914	160	Diesel	Turbine Starter Engine	1	20
SVPP	Coast And Honda Ridge Roads	104870	Starter Engine D.1	Deutz	BF6L915	160	Diesel	Turbine Starter Engine	1	20
SVPP	Coast And Honda Ridge Roads	104871	Starter Engine E.1	Deutz	BF6L916	160	Diesel	Turbine Starter Engine	1	20

**Table 5.1-2b. Emission Factors – Reciprocating Internal Combustion**

Building	Device ID	Operator ID	NOx (g/hp-hr)	ROC (g/hp-hr)	CO (g/hp-hr)	SOx (g/hp-hr)	PM (g/hp-hr)	PM10 (g/hp-hr)	GHG (g/hp-hr)
64	112818	3980	4.5	0.3	2.6	0.01	0.15	0.15	556.58
185	107135	564	9.13	1.34	5.11	0.01	0.15	0.15	556.58
185	107136	567	9.13	1.34	5.11	0.01	0.15	0.15	556.58
383	112688	3976	2.8	0.2	2.6	0.01	0.15	0.15	556.58
425	106942	3007	14.1	1.12	3	0.01	1	1	556.58
501	106943	3008	14.1	1.12	3	0.01	1	1	556.58
511	114491	4005	4.5	0.3	2.6	0.01	0.015	0.015	556.58
525	104867	818	14.1	1.12	3	0.01	1	1	556.58
525	104868	820	14.1	1.12	3	0.01	1	1	556.58
525	104869	821	14.1	1.12	3	0.01	1	1	556.58
525	104870	822	14.1	1.12	3	0.01	1	1	556.58
525	104871	823	14.1	1.12	3	0.01	1	1	556.58
529	114779	4297	4.5	1.12	3	0.01	0.15	0.15	556.58
661	107005	3009	14.1	1.12	3	0.01	1	1	556.58
764	107097	3540	4.5	0.3	2.6	0.01	0.15	0.15	556.58
14	107000	3397	14	1.12	3	0.01	1	1	556.58
830	111766	3906	4.5	0.3	2.6	0.01	1	1	556.58
906	106944	3012	14.1	1.12	3	0.01	1	1	556.58
929	111765	3927	2.8	0.2	2.6	0.01	0.01	0.01	556.58
968	107146	3024	-	-	-	0.01	-	-	556.58
968	107145	3025	-	-	-	0.01	-	-	556.58
980	107068	3553	4.5	0.4	2.6	0.01	0.15	0.15	556.58
1559	107006	3050	14	1.12	3	0.01	1	1	556.58
1561	107031	3411	14	1.12	3	0.01	1	1	556.58
1581	107037	3315	14	1.12	3	0.01	1	1	556.58
1594	113003	4039	2.8	0.2	2.6	0.01	0.15	0.15	556.58
1604	108889	3626	2.8	0.2	2.6	0.01	0.15	0.15	556.58
1618	106999	3318	14	1.12	3	0.01	1	1	556.58
1629	106998	3317	14	1.12	3	0.01	1	1	556.58
1639	106948	3390	14.1	1.12	3	0.01	1	1	556.58
1735	113916	4109	4.5	0.3	2.6	0.01	0.15	0.15	556.58
1747	112689	3639	4.5	0.3	2.6	0.01	0.15	0.15	556.58
1748	107032	642	14.1	1.12	3	0.01	1	1	556.58
1762	107007	3183	14.1	1.12	3	0.01	1	1	556.58
1764	106939	643	14.1	1.12	3	0.01	1	1	556.58
1768	107085	3573	4.5	0.3	2.6	0.01	0.15	0.15	556.58

Building	Device ID	Operator ID	NOx (g/hp-hr)	ROC (g/hp-hr)	CO (g/hp-hr)	SOx (g/hp-hr)	PM (g/hp-hr)	PM10 (g/hp-hr)	GHG (g/hp-hr)
1829	107141	645	-	-	-	0.01	-	-	556.58
1829	107142	649	-	-	-	0.01	-	-	556.58
1916	110696	3791	2.8	0.2	2.6	0.01	0.15	0.15	556.58
1917	107100	3548	4.5	0.3	2.6	0.01	0.15	0.15	556.58
1919	111769	3921	-	-	-	0.01	-	-	556.58
1937	107088	3329	6.9	1	8.5	0.01	0.4	0.4	556.58
1962	107067	3549	4.5	0.4	2.6	0.01	0.15	0.15	556.58
1964	107066	3550	4.5	0.4	2.6	0.01	0.15	0.15	556.58
1965	110364	3790	2.8	0.2	2.6	0.01	0.15	0.15	556.58
1971	107065	3551	4.5	0.4	2.6	0.01	0.15	0.15	556.58
1972	107064	3552	4.5	0.4	2.6	0.01	0.15	0.15	556.58
1980	106399	3587	4.5	0.4	2.6	0.01	0.15	0.15	556.58
2305	107143	655	-	-	-	0.01	-	-	556.58
2500	107126	3181	26.55	1.05	2.54	0.01	0.33	0.33	556.58
2520	110738	3814	4.5	0.3	2.6	0.01	0.02	0.02	556.58
3000	107127	3420	12.91	0.92	2.44	0.01	0.33	0.33	556.58
6253	114383	4286	4.5	0.3	2.6	0.01	0.15	0.15	556.58
6510	110735	3815	2.8	0.2	2.6	0.01	0.15	0.15	556.58
7425	112253	3936	6.9	0.999	8.5	0.01	0.4	0.4	556.58
8195	113917	4116	2.8	0.2	2.6	0.01	0.15	0.15	556.58
8317	114377	4123	2.8	0.2	2.6	0.01	0.15	0.15	556.58
8401	110201	3747	4.5	0.3	2.6	0.01	0.15	0.15	556.58
8510	106946	3052	14.1	1.12	3	0.01	1	1	556.58
10525	107003	697	14.1	1.12	3	0.01	1	1	556.58
10579	107038	589	14.1	1.12	3	0.01	1	1	556.58
10660	107004	698	14.1	1.12	3	0.01	1	1	556.58
11439	107034	699	14.1	1.12	3	0.01	1	1	556.58
12000	107087	3185	6.9	0.999	8.5	0.01	0.4	0.4	556.58
12000	114696	4268	0	0	0	0.01	0	0	556.58
12006	112255	3928	4.5	0.3	2.6	0.01	0.15	0.15	556.58
12006	112256	3929	4.5	0.3	2.6	0.01	0.15	0.15	556.58
13850	107035	3061	14.1	1.12	3	0.01	1	1	556.58
21150	107137	705	7.53	0.67	1.18	0.01	0.28	0.28	556.58
21203	109236	3642	4.5	0.3	2.6	0.01	0.01	0.01	556.58
23201	111125	3582	6.9	1.12	3.03	0.01	0.98	0.98	556.58
23209	107144	706	-	-	-	0.01	-	-	556.58
NA	113280	4010	2.8	0.2	3.7	0.01	0.15	0.15	556.58
NA	113281	4011	2.8	0.2	3.7	0.01	0.15	0.15	556.58

Building	Device ID	Operator ID	NOx (g/hp-hr)	ROC (g/hp-hr)	CO (g/hp-hr)	SOx (g/hp-hr)	PM (g/hp-hr)	PM10 (g/hp-hr)	GHG (g/hp-hr)
NA	113282	4012	2.8	0.2	3.7	0.01	0.15	0.15	556.58
NA	113283	4013	2.8	0.2	3.7	0.01	0.15	0.15	556.58
NA	133284	4014	2.8	0.2	3.7	0.01	0.15	0.15	556.58
SVPP	104867	Starter Engine A.1	14.06	1.12	3.03	0.006	0.98	0.98	556.58
SVPP	104868	Starter Engine B.1	14.06	1.12	3.03	0.006	0.98	0.98	556.58
SVPP	104869	Starter Engine C.1	14.06	1.12	3.03	0.006	0.98	0.98	556.58
SVPP	104870	Starter Engine D.1	14.06	1.12	3.03	0.006	0.98	0.98	556.58
SVPP	104871	Starter Engine E.1	14.06	1.12	3.03	0.006	0.98	0.98	556.58

**Table 5.1-3b. Short Term Emissions – Reciprocating Internal Combustion**

Building	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	GHG (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	GHG (lb/day)
64	112818	3980	14.78	0.99	8.54	0.03	0.49	0.49	1828.27	118.25	7.88	68.32	0.26	3.94	3.94	14626.18
185	107135	564	6.32	0.93	3.54	0.01	0.10	0.10	385.29	151.68	22.26	84.90	0.17	2.49	2.49	9246.88
185	107136	567	6.32	0.93	3.54	0.01	0.10	0.10	385.29	151.68	22.26	84.90	0.17	2.49	2.49	9246.88
383	112688	3976	2.25	0.16	2.09	0.01	0.12	0.12	446.64	17.98	1.28	16.69	0.06	0.96	0.96	3573.11
425	106942	3007	7.15	0.57	1.52	0.01	0.51	0.51	282.22	142.99	11.36	30.42	0.10	10.14	10.14	5644.33
501	106943	3008	10.26	0.81	2.18	0.01	0.73	0.73	404.92	205.16	16.30	43.65	0.15	14.55	14.55	8098.39
511	114491	4005	7.49	0.50	4.33	0.02	0.02	0.02	926.41	179.76	11.98	103.86	0.40	0.60	0.60	22233.75
525	104867	818	4.97	0.40	1.06	0.00	0.35	0.35	196.32	99.47	7.90	21.16	0.07	7.05	7.05	3926.49
525	104868	820	4.97	0.40	1.06	0.00	0.35	0.35	196.32	99.47	7.90	21.16	0.07	7.05	7.05	3926.49
525	104869	821	4.97	0.40	1.06	0.00	0.35	0.35	196.32	99.47	7.90	21.16	0.07	7.05	7.05	3926.49
525	104870	822	4.97	0.40	1.06	0.00	0.35	0.35	196.32	99.47	7.90	21.16	0.07	7.05	7.05	3926.49
525	104871	823	4.97	0.40	1.06	0.00	0.35	0.35	196.32	99.47	7.90	21.16	0.07	7.05	7.05	3926.49
529	114779	4297	14.78	3.68	9.85	0.03	0.49	0.49	1828.27	147.82	36.79	98.54	0.33	4.93	4.93	18282.72
661	107005	3009	11.66	0.93	2.48	0.01	0.83	0.83	460.14	233.13	18.52	49.60	0.17	16.53	16.53	9202.71
764	107097	3540	6.80	0.45	3.93	0.02	0.23	0.23	840.51	163.10	10.87	94.23	0.36	5.44	5.44	20172.34
14	107000	3397	21.14	1.69	4.53	0.02	1.51	1.51	840.51	422.84	33.83	90.61	0.30	30.20	30.20	16810.29
830	111766	3906	14.78	0.99	8.54	0.03	3.28	3.28	1828.27	118.25	7.88	68.32	0.26	26.28	26.28	14626.18
906	106944	3012	23.31	1.85	4.96	0.02	1.65	1.65	920.27	466.27	37.04	99.21	0.33	33.07	33.07	18405.42
929	111765	3927	2.90	0.21	2.69	0.01	0.01	0.01	576.70	69.63	4.97	64.66	0.25	0.25	0.25	13840.88
968	107146	3024	-	-	-	-	-	-	299.39	-	-	-	-	-	-	-
968	107145	3025	-	-	-	-	-	-	299.39	-	-	-	-	-	-	-
980	107068	3553	3.92	0.35	2.26	0.01	0.13	0.13	484.68	94.05	8.36	54.34	0.21	3.13	3.13	11632.23
1559	107006	3050	16.48	1.32	3.53	0.01	1.18	1.18	655.23	329.63	26.37	70.63	0.24	23.54	23.54	13104.66
1561	107031	3411	13.86	1.11	2.97	0.01	0.99	0.99	550.94	277.16	22.17	59.39	0.20	19.80	19.80	11018.71
1581	107037	3315	1.88	0.15	0.40	0.00	0.13	0.13	74.85	37.65	3.01	8.07	0.03	2.69	2.69	1496.97
1594	113003	4039	1.94	0.14	1.81	0.01	0.10	0.10	386.51	15.56	1.11	14.44	0.06	0.83	0.83	3092.11
1604	108889	3626	3.02	0.22	2.81	0.01	0.16	0.16	601.24	24.20	1.73	22.47	0.09	1.30	1.30	4809.95
1618	106999	3318	23.30	1.86	4.99	0.02	1.66	1.66	926.41	466.05	37.28	99.87	0.33	33.29	33.29	18528.13
1629	106998	3317	23.30	1.86	4.99	0.02	1.66	1.66	926.41	466.05	37.28	99.87	0.33	33.29	33.29	18528.13
1639	106948	3390	26.42	2.10	5.62	0.02	1.87	1.87	1042.97	528.44	41.98	112.43	0.37	37.48	37.48	20859.48
1735	113916	4109	7.51	0.50	4.34	0.02	0.25	0.25	928.86	60.08	4.01	34.71	0.13	2.00	2.00	7430.88
1747	112689	3639	7.49	0.50	4.33	0.02	0.25	0.25	926.41	179.76	11.98	103.86	0.40	5.99	5.99	22233.75
1748	107032	642	5.16	0.41	1.10	0.00	0.37	0.37	203.69	103.20	8.20	21.96	0.07	7.32	7.32	4073.73
1762	107007	3183	1.55	0.12	0.33	0.00	0.11	0.11	61.35	31.08	2.47	6.61	0.02	2.20	2.20	1227.03
1764	106939	643	2.42	0.19	0.52	0.00	0.17	0.17	95.71	48.49	3.85	10.32	0.03	3.44	3.44	1914.16
1768	107085	3573	7.44	0.50	4.30	0.02	0.25	0.25	920.27	178.57	11.90	103.17	0.40	5.95	5.95	22086.51
1829	107141	645	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-
1829	107142	649	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-



Building	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	GHG (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	GHG (lb/day)
1916	110696	3791	3.48	0.25	3.23	0.01	0.19	0.19	690.82	83.41	5.96	77.45	0.30	4.47	4.47	16579.61
1917	107100	3548	6.75	0.45	3.90	0.01	0.22	0.22	834.38	161.90	10.79	93.54	0.36	5.40	5.40	20025.10
1919	111769	3921	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1937	107088	3329	3.82	0.55	4.70	0.01	0.22	0.22	307.98	91.63	13.28	112.88	0.13	5.31	5.31	7391.62
1962	107067	3549	3.14	0.28	1.82	0.01	0.10	0.10	388.97	75.48	6.71	43.61	0.17	2.52	2.52	9335.23
1964	107066	3550	3.14	0.28	1.82	0.01	0.10	0.10	388.97	75.48	6.71	43.61	0.17	2.52	2.52	9335.23
1965	110364	3790	2.25	0.16	2.09	0.01	0.12	0.12	446.64	24.72	1.77	22.95	0.09	1.32	1.32	4913.02
1971	107065	3551	3.14	0.28	1.82	0.01	0.10	0.10	388.97	75.48	6.71	43.61	0.17	2.52	2.52	9335.23
1972	107064	3552	3.14	0.28	1.82	0.01	0.10	0.10	388.97	75.48	6.71	43.61	0.17	2.52	2.52	9335.23
1980	106399	3587	2.97	0.26	1.71	0.01	0.10	0.10	366.88	23.73	2.11	13.71	0.05	0.79	0.79	2935.05
2305	107143	655	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2500	107126	3181	70.24	2.78	6.72	0.03	0.87	0.87	1472.43	1685.71	66.67	161.27	0.63	20.95	20.95	35338.41
2520	110738	3814	14.78	0.99	8.54	0.03	0.07	0.07	1828.27	118.25	7.88	68.32	0.26	0.53	0.53	14626.18
3000	107127	3420	45.31	3.23	8.56	0.04	1.16	1.16	1953.43	1087.45	77.49	205.53	0.84	27.80	27.80	46882.29
6253	114383	4286	12.10	0.81	6.99	0.03	0.40	0.40	1496.97	24.21	1.61	13.99	0.05	0.81	0.81	2993.95
6510	110735	3815	2.46	0.18	2.29	0.01	0.13	0.13	489.58	59.11	4.22	54.89	0.21	3.17	3.17	11750.02
7425	112253	3936	3.15	0.46	3.88	0.00	0.18	0.18	253.99	23.62	3.42	29.09	0.03	1.37	1.37	1904.96
8195	113917	4116	2.25	0.16	2.09	0.01	0.12	0.12	446.64	17.98	1.28	16.69	0.06	0.96	0.96	3573.11
8317	114377	4123	1.54	0.11	1.43	0.01	0.08	0.08	306.76	12.35	0.88	11.46	0.04	0.66	0.66	2454.06
8401	110201	3747	7.49	0.50	4.33	0.02	0.25	0.25	926.41	22.47	1.50	12.98	0.05	0.75	0.75	2779.22
8510	106946	3052	49.49	3.93	10.53	0.04	3.51	3.51	1953.43	989.74	78.62	210.58	0.70	70.19	70.19	39068.58
10525	107003	697	11.66	0.93	2.48	0.01	0.83	0.83	460.14	233.13	18.52	49.60	0.17	16.53	16.53	9202.71
10579	107038	589	23.31	1.85	4.96	0.02	1.65	1.65	920.27	466.27	37.04	99.21	0.33	33.07	33.07	18405.42
10660	107004	698	1.99	0.16	0.42	0.00	0.14	0.14	78.53	39.79	3.16	8.47	0.03	2.82	2.82	1570.60
11439	107034	699	5.16	0.41	1.10	0.00	0.37	0.37	203.69	103.20	8.20	21.96	0.07	7.32	7.32	4073.73
12000	107087	3185	4.82	0.70	5.94	0.01	0.28	0.28	388.97	115.73	16.76	142.57	0.17	6.71	6.71	9335.23
12000	114696	4268	0.00	0.00	0.00	0.03	0.00	0.00	1400.04	0.00	0.00	0.00	0.20	0.00	0.00	11200.31
12006	112255	3928	28.99	1.93	16.75	0.06	0.97	0.97	3585.38	695.71	46.38	401.97	1.55	23.19	23.19	86049.03
12006	112256	3929	28.99	1.93	16.75	0.06	0.97	0.97	3585.38	695.71	46.38	401.97	1.55	23.19	23.19	86049.03
13850	107035	3061	13.52	1.07	2.88	0.01	0.96	0.96	533.76	270.44	21.48	57.54	0.19	19.18	19.18	10675.15
21150	107137	705	8.96	0.80	1.40	0.01	0.33	0.33	662.60	215.14	19.14	33.71	0.29	8.00	8.00	15902.29
21203	109236	3642	7.49	0.50	4.33	0.02	0.02	0.02	926.41	59.92	3.99	34.62	0.13	0.13	0.13	7411.25
23201	111125	3582	1.51	0.24	0.66	0.00	0.21	0.21	121.48	36.14	5.87	15.87	0.05	5.13	5.13	2915.42
23209	107144	706	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NA	113280	4010	0.90	0.06	1.18	0.00	0.05	0.05	177.92	7.16	0.51	9.46	0.03	0.38	0.38	1423.35
NA	113281	4011	0.90	0.06	1.18	0.00	0.05	0.05	177.92	7.16	0.51	9.46	0.03	0.38	0.38	1423.35
NA	113282	4012	0.90	0.06	1.18	0.00	0.05	0.05	177.92	7.16	0.51	9.46	0.03	0.38	0.38	1423.35
NA	113283	4013	0.90	0.06	1.18	0.00	0.05	0.05	177.92	7.16	0.51	9.46	0.03	0.38	0.38	1423.35
NA	133284	4014	0.90	0.06	1.18	0.00	0.05	0.05	177.92	7.16	0.51	9.46	0.03	0.38	0.38	1423.35

Building	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	GHG (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	GHG (lb/day)
SVPP	104867	Starter Engine A.1	4.96	0.40	1.07	0.00	0.35	0.35	196.32	4.96	0.40	1.07	0.00	0.35	0.35	196.32
SVPP	104868	Starter Engine B.1	4.96	0.40	1.07	0.00	0.35	0.35	196.32	4.96	0.40	1.07	0.00	0.35	0.35	196.32
SVPP	104869	Starter Engine C.1	4.96	0.40	1.07	0.00	0.35	0.35	196.32	4.96	0.40	1.07	0.00	0.35	0.35	196.32
SVPP	104870	Starter Engine D.1	4.96	0.40	1.07	0.00	0.35	0.35	196.32	4.96	0.40	1.07	0.00	0.35	0.35	196.32
SVPP	104871	Starter Engine E.1	4.96	0.40	1.07	0.00	0.35	0.35	196.32	4.96	0.40	1.07	0.00	0.35	0.35	196.32

**Table 5.1-4b. Long Term Emissions – Reciprocating Internal Combustion**

Building	Device ID	Operator ID	NOx (ton/qtr)	ROC (ton/qtr)	CO (ton/qtr)	SOx (ton/qtr)	PM (ton/qtr)	PM10 (ton/qtr)	GHG (ton/qtr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	GHG (ton/year)
64	112818	3980	0.370	0.025	0.214	0.001	0.012	0.012	45.707	1.214	0.081	0.701	0.003	0.040	0.040	150.139
185	107135	564	0.095	0.014	0.053	0.000	0.002	0.002	5.779	0.066	0.010	0.037	0.000	0.001	0.001	4.001
185	107136	567	0.095	0.014	0.053	0.000	0.002	0.002	5.779	0.066	0.010	0.037	0.000	0.001	0.001	4.001
383	112688	3976	0.056	0.004	0.052	0.000	0.003	0.003	11.166	0.045	0.003	0.042	0.000	0.002	0.002	8.960
425	106942	3007	0.071	0.006	0.015	0.000	0.005	0.005	2.822	0.036	0.003	0.008	0.000	0.003	0.003	1.431
501	106943	3008	0.103	0.008	0.022	0.000	0.007	0.007	4.049	0.075	0.006	0.016	0.000	0.005	0.005	2.946
511	114491	4005	0.375	0.025	0.216	0.001	0.001	0.001	46.320	0.623	0.042	0.360	0.001	0.002	0.002	77.098
525	104867	818	0.050	0.004	0.011	0.000	0.004	0.004	1.963	0.018	0.001	0.004	0.000	0.001	0.001	0.693
525	104868	820	0.050	0.004	0.011	0.000	0.004	0.004	1.963	0.018	0.001	0.004	0.000	0.001	0.001	0.693
525	104869	821	0.050	0.004	0.011	0.000	0.004	0.004	1.963	0.018	0.001	0.004	0.000	0.001	0.001	0.693
525	104870	822	0.050	0.004	0.011	0.000	0.004	0.004	1.963	0.018	0.001	0.004	0.000	0.001	0.001	0.693
525	104871	823	0.050	0.004	0.011	0.000	0.004	0.004	1.963	0.018	0.001	0.004	0.000	0.001	0.001	0.693
529	114779	4297	0.296	0.074	0.197	0.001	0.010	0.010	36.565	0.971	0.242	0.647	0.002	0.032	0.032	120.111
661	107005	3009	0.117	0.009	0.025	0.000	0.008	0.008	4.601	0.096	0.008	0.021	0.000	0.007	0.007	3.804
764	107097	3540	0.170	0.011	0.098	0.000	0.006	0.006	21.013	0.257	0.017	0.148	0.001	0.009	0.009	31.732
14	107000	3397	0.211	0.017	0.045	0.000	0.015	0.015	8.405	0.319	0.026	0.068	0.000	0.023	0.023	12.693
830	111766	3906	0.370	0.025	0.214	0.001	0.082	0.082	45.707	1.214	0.081	0.701	0.003	0.270	0.270	150.139
906	106944	3012	0.233	0.019	0.050	0.000	0.017	0.017	9.203	0.385	0.031	0.082	0.000	0.027	0.027	15.216
929	111765	3927	0.145	0.010	0.135	0.001	0.001	0.001	28.835	0.150	0.011	0.140	0.001	0.001	0.001	29.878
968	107146	3024	-	-	-	-	-	-	-	-	-	-	-	-	-	-
968	107145	3025	-	-	-	-	-	-	-	-	-	-	-	-	-	-
980	107068	3553	0.098	0.009	0.057	0.000	0.003	0.003	12.117	0.085	0.008	0.049	0.000	0.003	0.003	10.552
1559	107006	3050	0.165	0.013	0.035	0.000	0.012	0.012	6.552	0.194	0.016	0.042	0.000	0.014	0.014	7.714
1561	107031	3411	0.139	0.011	0.030	0.000	0.010	0.010	5.509	0.137	0.011	0.029	0.000	0.010	0.010	5.453
1581	107037	3315	0.019	0.002	0.004	0.000	0.001	0.001	0.748	0.003	0.000	0.001	0.000	0.000	0.000	0.101
1594	113003	4039	0.049	0.003	0.045	0.000	0.003	0.003	9.663	0.034	0.002	0.031	0.000	0.002	0.002	6.710
1604	108889	3626	0.076	0.005	0.070	0.000	0.004	0.004	15.031	0.082	0.006	0.076	0.000	0.004	0.004	16.237
1618	106999	3318	0.233	0.019	0.050	0.000	0.017	0.017	9.264	0.388	0.031	0.083	0.000	0.028	0.028	15.420
1629	106998	3317	0.233	0.019	0.050	0.000	0.017	0.017	9.264	0.388	0.031	0.083	0.000	0.028	0.028	15.420
1639	106948	3390	0.264	0.021	0.056	0.000	0.019	0.019	10.430	0.495	0.039	0.105	0.000	0.035	0.035	19.544
1735	113916	4109	0.188	0.013	0.108	0.000	0.006	0.006	23.222	0.313	0.021	0.181	0.001	0.010	0.010	38.754
1747	112689	3639	0.187	0.012	0.108	0.000	0.006	0.006	23.160	0.312	0.021	0.180	0.001	0.010	0.010	38.549
1748	107032	642	0.052	0.004	0.011	0.000	0.004	0.004	2.037	0.019	0.001	0.004	0.000	0.001	0.001	0.745
1762	107007	3183	0.016	0.001	0.003	0.000	0.001	0.001	0.614	0.002	0.000	0.000	0.000	0.000	0.000	0.068
1764	106939	643	0.024	0.002	0.005	0.000	0.002	0.002	0.957	0.004	0.000	0.001	0.000	0.000	0.000	0.165
1768	107085	3573	0.186	0.012	0.107	0.000	0.006	0.006	23.007	0.308	0.021	0.178	0.001	0.010	0.010	38.040
1829	107141	645	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Building	Device ID	Operator ID	NOx (ton/qtr)	ROC (ton/qtr)	CO (ton/qtr)	SOx (ton/qtr)	PM (ton/qtr)	PM10 (ton/qtr)	GHG (ton/qtr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	GHG (ton/year)
1829	107142	649	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1916	110696	3791	0.087	0.006	0.081	0.000	0.005	0.005	17.270	0.108	0.008	0.100	0.000	0.006	0.006	21.436
1917	107100	3548	0.169	0.011	0.097	0.000	0.006	0.006	20.859	0.253	0.017	0.146	0.001	0.008	0.008	31.271
1919	111769	3921	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1937	107088	3329	0.057	0.008	0.071	0.000	0.003	0.003	4.620	0.032	0.005	0.039	0.000	0.002	0.002	2.556
1962	107067	3549	0.079	0.007	0.045	0.000	0.003	0.003	9.724	0.055	0.005	0.032	0.000	0.002	0.002	6.796
1964	107066	3550	0.079	0.007	0.045	0.000	0.003	0.003	9.724	0.055	0.005	0.032	0.000	0.002	0.002	6.796
1965	110364	3790	0.056	0.004	0.052	0.000	0.003	0.003	11.166	0.045	0.003	0.042	0.000	0.002	0.002	8.960
1971	107065	3551	0.079	0.007	0.045	0.000	0.003	0.003	9.724	0.055	0.005	0.032	0.000	0.002	0.002	6.796
1972	107064	3552	0.079	0.007	0.045	0.000	0.003	0.003	9.724	0.055	0.005	0.032	0.000	0.002	0.002	6.796
1980	106399	3587	0.074	0.007	0.043	0.000	0.002	0.002	9.172	0.049	0.004	0.028	0.000	0.002	0.002	6.046
2305	107143	655	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2500	107126	3181	1.054	0.042	0.101	0.000	0.013	0.013	22.087	2.787	0.110	0.267	0.001	0.035	0.035	58.430
2520	110738	3814	0.370	0.025	0.214	0.001	0.002	0.002	45.707	1.214	0.081	0.701	0.003	0.005	0.005	150.139
3000	107127	3420	0.680	0.048	0.128	0.001	0.017	0.017	29.301	2.385	0.170	0.451	0.002	0.061	0.061	102.839
6253	114383	4286	0.303	0.020	0.175	0.001	0.010	0.010	37.424	0.814	0.054	0.470	0.002	0.027	0.027	100.656
6510	110735	3815	0.062	0.004	0.057	0.000	0.003	0.003	12.240	0.054	0.004	0.050	0.000	0.003	0.003	10.766
7425	112253	3936	0.945	0.137	1.164	0.001	0.055	0.055	76.198	0.431	0.062	0.531	0.001	0.025	0.025	34.773
8195	113917	4116	0.056	0.004	0.052	0.000	0.003	0.003	11.166	0.045	0.003	0.042	0.000	0.002	0.002	8.960
8317	114377	4123	0.039	0.003	0.036	0.000	0.002	0.002	7.669	0.021	0.002	0.020	0.000	0.001	0.001	4.227
8401	110201	3747	0.187	0.012	0.108	0.000	0.006	0.006	23.160	0.312	0.021	0.180	0.001	0.010	0.010	38.549
8510	106946	3052	0.495	0.039	0.105	0.000	0.035	0.035	19.534	1.737	0.138	0.370	0.001	0.123	0.123	68.559
10525	107003	697	0.117	0.009	0.025	0.000	0.008	0.008	4.601	0.096	0.008	0.021	0.000	0.007	0.007	3.804
10579	107038	589	0.233	0.019	0.050	0.000	0.017	0.017	9.203	0.385	0.031	0.082	0.000	0.027	0.027	15.216
10660	107004	698	0.020	0.002	0.004	0.000	0.001	0.001	0.785	0.003	0.000	0.001	0.000	0.000	0.000	0.111
11439	107034	699	0.052	0.004	0.011	0.000	0.004	0.004	2.037	0.019	0.001	0.004	0.000	0.001	0.001	0.745
12000	107087	3185	0.072	0.010	0.089	0.000	0.004	0.004	5.835	0.051	0.007	0.062	0.000	0.003	0.003	4.077
12000	114696	4268	0.000	0.000	0.000	0.001	0.000	0.000	35.001	0.000	0.000	0.000	0.002	0.000	0.000	88.043
12006	112255	3928	0.725	0.048	0.419	0.002	0.024	0.024	89.634	4.668	0.311	2.697	0.010	0.156	0.156	577.407
12006	112256	3929	0.725	0.048	0.419	0.002	0.024	0.024	89.634	4.668	0.311	2.697	0.010	0.156	0.156	577.407
13850	107035	3061	0.135	0.011	0.029	0.000	0.010	0.010	5.338	0.130	0.010	0.028	0.000	0.009	0.009	5.119
21150	107137	705	0.134	0.012	0.021	0.000	0.005	0.005	9.939	0.160	0.014	0.025	0.000	0.006	0.006	11.832
21203	109236	3642	0.375	0.025	0.216	0.001	0.001	0.001	46.320	0.623	0.042	0.360	0.001	0.001	0.001	77.098
23201	111125	3582	0.023	0.004	0.010	0.000	0.003	0.003	1.822	0.005	0.001	0.002	0.000	0.001	0.001	0.398
23209	107144	706	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NA	113280	4010	0.022	0.002	0.030	0.000	0.001	0.001	4.448	0.007	0.001	0.009	0.000	0.000	0.000	1.422
NA	113281	4011	0.022	0.002	0.030	0.000	0.001	0.001	4.448	0.007	0.001	0.009	0.000	0.000	0.000	1.422
NA	113282	4012	0.022	0.002	0.030	0.000	0.001	0.001	4.448	0.007	0.001	0.009	0.000	0.000	0.000	1.422

Building	Device ID	Operator ID	NOx (ton/qtr)	ROC (ton/qtr)	CO (ton/qtr)	SOx (ton/qtr)	PM (ton/qtr)	PM10 (ton/qtr)	GHG (ton/qtr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	GHG (ton/year)
NA	113283	4013	0.022	0.002	0.030	0.000	0.001	0.001	4.448	0.007	0.001	0.009	0.000	0.000	0.000	1.422
NA	133284	4014	0.022	0.002	0.030	0.000	0.001	0.001	4.448	0.007	0.001	0.009	0.000	0.000	0.000	1.422
SVPP	104867	Starter Engine A.1	0.050	0.004	0.011	0.000	0.003	0.003	1.963	0.017	0.001	0.004	0.000	0.001	0.001	0.693
SVPP	104868	Starter Engine B.1	0.050	0.004	0.011	0.000	0.003	0.003	1.963	0.017	0.001	0.004	0.000	0.001	0.001	0.693
SVPP	104869	Starter Engine C.1	0.050	0.004	0.011	0.000	0.003	0.003	1.963	0.017	0.001	0.004	0.000	0.001	0.001	0.693
SVPP	104870	Starter Engine D.1	0.050	0.004	0.011	0.000	0.003	0.003	1.963	0.017	0.001	0.004	0.000	0.001	0.001	0.693
SVPP	104871	Starter Engine E.1	0.050	0.004	0.011	0.000	0.003	0.003	1.963	0.017	0.001	0.004	0.000	0.001	0.001	0.693

**Table 5.1c Coating Operations**

Building Number	Equipment Location	Device No.	Operator ID	Booth Filter Type	Spray Gun Cleaner?	Booth Heater	lb/day	ton/year	Year of Install	NEI?	Current Permit
831	831 Clark St	105841	4174	Overspray Filters	Yes - OID 4130	No	11.2	0.55	33582	Y	8350-R6
875	875 Sweeney Rd	6096	1598	Overspray Filters	Yes - OID 4157	No	5.61	0.73	33577	Y	8580-R5
1800	150 Taurus Rd	6100	1600	Dry Overspray Filters	Yes - OID 4134	No	7.76	1.01	33581	N	8630-R7
7437	1556 New Mexico Ave	6195	PSB01	Dry Overspray Filters	Yes - OID SK002	No	7.6	0.49	25204	N	8433-R7
8190	1580 Nevada Ave	105649	1603	Overspray Filters	No	Yes - OID 4106	9.36	1.21	34258	N	9088-R4
9320	334 6th St	105846	1591	Water Wash Overspray System	Yes - OID 4129	No	2.4	0.31	30339	N	8629-R6
9320	334 6th St	105847	1592	Overspray Filters	Yes - OID 4129	No	2.4	0.31	30339	N	8629-R6
9327	1346 New Mexico Ave	113676	4096	Rear Exhaust Plenum	Yes - OID 4101	Yes	9.36	1.22	40588	Y	13493
10711	433 Herado Ave	107930	1604	Dry Overspray Filters	Yes - OID 3632	Yes - OID 3888	11.26	1.47	34037	N	8932-R5
11438	1170 Iceland Ave	107924	1605	Water Wash Overspray System	Yes - OID 4133	No	24.85	3.23	28491	N	8362-R7
1620D	1620 Aero Rd	105785	1599	Water Curtain Overspray Control	Yes - OID 3581	No	12.23	0.88	33898	N	8914-R7

**Table 5.1d Other Operations**

Device No.	Operator ID	Device Type	Daily Throughput Limit	Quarterly Throughput Limit	Annual Throughput Limit	Throughput Units	Daily Mass Limit	Quarterly Mass Limit	Annual Mass Limit	Mass Units	Year of Installation	NEI ?	Current Permit
113960	4147	Bulk Fuel Storage Facility; RP-1	NA	NA	NA	gallon					1965	Y	13657
109896/97	1702/1703	Bulk Fuel Storage Facility; JP-8	NA	NA	2040000	gallon			0.28	tons ROC	1992	Y	8688-R4
107916	3599	Abrasive Blasting Operations					0.0041	NA	1.025	ton PM	40460	N	12155
114257	VOC003	Miscellaneous Solvent Usage – Delta II					24	NA	6336	lbs ROC	<1999	N	10155-R2
114277	HAZMART	Miscellaneous Solvent Usage					24	NA	6336	lbs ROC	<1999	N	10156-R2
110309	HAZMART2	Miscellaneous Solvent Usage					22.73	500	2000	lbs ROC	38261	Y	11143-R1
110180	2703	Abrasive Blasting Operations					0.0246	NA	12.3	ton PM	24103	N	10900-R2
9890	1859	Abrasive Blasting Operations					0.00048	NA	0.05	ton PM	Unknown	N	10867-R2
110229	3907	Abrasive Blasting Operations					0.0027225	NA	0.708	ton PM	39616	N	12346
TBD	3399	Landfill Gas	NA	NA	NA	NA					14977	N	13718
109369	434	Military Gasoline Dispensing Facility	NA	NA	1200000	gallon					Unknown	Y	12233
107919	3508	E-85 GDF with Phase 1 VRS	NA	NA	1200000	gallon					2003	N	13139
9167	3415	AAFES Gasoline Dispensing Facility	NA	NA	4800000	gallon					39094	Y	10791
7602	345	Degasifier; H2S - Wells 5 & 6	3000000	NA	NA	gallon					39338	N	8766-R5
7602	347	Degasifier; H2S - Wells 4 & 7	3000000	NA	NA	gallon					39264	N	8766-R5
6926	4173	Scrubber (OVSS); Nitrogen Tetroxide					62.16	NA	440	lbs NOx	1991	Y	7988-R5
6925	4172	Scrubber (FVSS); Aerozine-50 Fuel					23.04	NA	100	lbs ROC	1991	Y	7987-R5
113616	3417	Microwave Reactor System for Hypergolic Fuel Vapors	NA	NA	2	event					38935	N	13537
113621	3418	Microwave Reactor System for Hypergolic Oxidizer Vapors	NA	NA	2	event					38935	N	13537
6223	2067	#1 Scrubber; A-50; Emitting Device for AST	NA	NA	6400	gallon			0.01	tons ROC	36526	Y	8658-R5
6223	2069	#2 Scrubber; Nitrogen Tetroxide; Emitting Device for AST	NA	NA	7550	gallon					36526	Y	8658-R5
104469	2068	AST; Kerosene; 15,000 Gallons	NA	NA	114000	gallon			0.02	tons ROC	36526	Y	8686-R4
113065	4054	Fuel Scrubber System; A-50	NA	NA	6400	gallon			0.003	tons ROC	40422	Y	13416
113079	4055	Oxidizer Scrubber System; N2O4	NA	NA	7550	gallon					40422	Y	13416

**Table 5.1-1e Operating Equipment Description - Turbines**

	Building	Location	Device ID	Operator ID	Fuel Type	Rating (MMBtu/hr)	Limit (MMBtu/day)	Limit (MMBtu/qtr)	Limit (MMBtu/yr)	HHV (Btu/scf)	Sulfur (ppmv S)
Fired Exclusively on Natural Gas	SVPP	Coast And Honda Ridge Roads	6080	A	NG	44.08	1057.920	31,156	124,622	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6081	B	NG	44.08	1057.920	31,156	124,622	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6082	C	NG	44.08	1057.920	31,156	124,622	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6083	D	NG	44.08	1057.920	31,156	124,622	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6084	E	NG	44.08	1057.920	31,156	124,622	1,050	80.00
Fired on a Mixture of Natural Gas and Diesel	SVPP	Coast And Honda Ridge Roads	6080	A	NG	44.08	1057.920	25,996	103,984	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6081	B	NG	44.08	1057.920	25,996	103,984	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6082	C	NG	44.08	1057.920	25,996	103,984	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6083	D	NG	44.08	1057.920	25,996	103,984	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6084	E	NG	44.08	1057.920	25,996	103,984	1,050	80.00
	SVPP	Coast And Honda Ridge Roads	6080	A	Diesel	43.175	1036.200	1,554	6,218	137,000	80.00
	SVPP	Coast And Honda Ridge Roads	6081	B	Diesel	43.175	1036.200	1,554	6,218	137,000	80.00
	SVPP	Coast And Honda Ridge Roads	6082	C	Diesel	43.175	1036.200	1,554	6,218	137,000	80.00
	SVPP	Coast And Honda Ridge Roads	6083	D	Diesel	43.175	1036.200	1,554	6,218	137,000	80.00
	SVPP	Coast And Honda Ridge Roads	6084	E	Diesel	43.175	1036.200	1,554	6,218	137,000	80.00



**Table 5.1-2e Emission Factors - Turbines**

	Device ID	Operator ID	Nox (lb/MMBtu)	ROC (lb/MMBtu)	CO (lb/MMBtu)	Sox (lb/MMBtu)	PM (lb/MMBtu)	PM10 (lb/MMBtu)	GHG (lb/MMBtu)
Fired Exclusively on Natural Gas	6080	A	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6081	B	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6082	C	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6083	D	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6084	E	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
Fired on a Mixture of Natural Gas and Diesel	6080	A	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6081	B	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6082	C	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6083	D	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6084	E	0.0867	0.0113	0.1037	0.0045	0.0066	0.0066	117.00
	6080	A	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	163.60
	6081	B	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	163.60
	6082	C	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	163.60
	6083	D	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	163.60
	6084	E	0.1297	0.0159	0.3937	0.1892	0.0120	0.0120	163.60

**Table 5.1-3e Short Term Emissions - Turbines**

	Device ID	Operator ID	NOx (lb/hr)	ROC (lb/hr)	CO (lb/hr)	SOx (lb/hr)	PM (lb/hr)	PM10 (lb/hr)	GHG (lb/hr)	NMHC (lb/hr)	NOx (lb/day)	ROC (lb/day)	CO (lb/day)	SOx (lb/day)	PM (lb/day)	PM10 (lb/day)	GHG (lb/day)	NMHC (lb/day)
Fired Exclusively on Natural Gas	6080	A	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6081	B	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6082	C	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6083	D	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6084	E	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
<b>Totals:</b>			<b>19.11</b>	<b>2.49</b>	<b>22.86</b>	<b>0.99</b>	<b>1.45</b>	<b>1.45</b>	<b>25786.80</b>	<b>3.79</b>	<b>458.61</b>	<b>59.77</b>	<b>548.53</b>	<b>23.80</b>	<b>34.91</b>	<b>34.91</b>	<b>618883.20</b>	<b>90.98</b>
Fired on a Mixture of Natural Gas and Diesel	6080	A	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6081	B	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6082	C	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6083	D	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6084	E	3.82	0.50	4.57	0.20	0.29	0.29	5157.36	0.76	91.72	11.95	109.71	4.76	6.98	6.98	123776.64	18.20
	6080	A	5.60	0.69	17.00	8.17	0.52	0.52	7063.43	1.08	134.40	16.48	407.95	196.05	12.43	12.43	169522.32	25.80
	6081	B	5.60	0.69	17.00	8.17	0.52	0.52	7063.43	1.08	134.40	16.48	407.95	196.05	12.43	12.43	169522.32	25.80
	6082	C	5.60	0.69	17.00	8.17	0.52	0.52	7063.43	1.08	134.40	16.48	407.95	196.05	12.43	12.43	169522.32	25.80
	6083	D	5.60	0.69	17.00	8.17	0.52	0.52	7063.43	1.08	134.40	16.48	407.95	196.05	12.43	12.43	169522.32	25.80
	6084	E	5.60	0.69	17.00	8.17	0.52	0.52	7063.43	1.08	134.40	16.48	407.95	196.05	12.43	12.43	169522.32	25.80
<b>Totals:</b>			<b>28.00</b>	<b>3.43</b>	<b>84.99</b>	<b>40.84</b>	<b>2.59</b>	<b>2.59</b>	<b>35317.15</b>	<b>5.38</b>	<b>671.98</b>	<b>82.38</b>	<b>2039.76</b>	<b>980.25</b>	<b>62.17</b>	<b>62.17</b>	<b>847611.60</b>	<b>129.01</b>

**Table 5.1-4 Long Term Emissions – Turbines**

	Device ID	Operator ID	NOx (ton/qtr)	ROC (ton/qtr)	CO (ton/qtr)	SOx (ton/qtr)	PM (ton/qtr)	PM10 (ton/qtr)	GHG (ton/qtr)	NMHC (ton/qtr)	NOx (ton/yr)	ROC (ton/yr)	CO (ton/yr)	SOx (ton/yr)	PM (ton/yr)	PM10 (ton/yr)	GHG (ton/yr)	NMHC (ton/year)
Fired Exclusively on Natural Gas	6080	A	1.35	0.18	1.62	0.07	0.10	0.10	1822.60	0.27	5.40	0.70	6.46	0.28	0.41	0.41	7290.41	1.07
	6081	B	1.35	0.18	1.62	0.07	0.10	0.10	1822.60	0.27	5.40	0.70	6.46	0.28	0.41	0.41	7290.41	1.07
	6082	C	1.35	0.18	1.62	0.07	0.10	0.10	1822.60	0.27	5.40	0.70	6.46	0.28	0.41	0.41	7290.41	1.07
	6083	D	1.35	0.18	1.62	0.07	0.10	0.10	1822.60	0.27	5.40	0.70	6.46	0.28	0.41	0.41	7290.41	1.07
	6084	E	1.35	0.18	1.62	0.07	0.10	0.10	1822.60	0.27	5.40	0.70	6.46	0.28	0.41	0.41	7290.41	1.07
<b>Totals:</b>			<b>6.75</b>	<b>0.88</b>	<b>8.08</b>	<b>0.35</b>	<b>0.51</b>	<b>0.51</b>	<b>9113.01</b>	<b>1.34</b>	<b>27.01</b>	<b>3.52</b>	<b>32.31</b>	<b>1.40</b>	<b>2.06</b>	<b>2.06</b>	<b>36452.05</b>	<b>5.36</b>
Fired on a Mixture of Natural Gas and Diesel	6080	A	1.13	0.15	1.35	0.06	0.09	0.09	1520.77	0.22	4.51	0.59	5.39	0.23	0.34	0.34	6083.06	0.89
	6081	B	1.13	0.15	1.35	0.06	0.09	0.09	1520.77	0.22	4.51	0.59	5.39	0.23	0.34	0.34	6083.06	0.89
	6082	C	1.13	0.15	1.35	0.06	0.09	0.09	1520.77	0.22	4.51	0.59	5.39	0.23	0.34	0.34	6083.06	0.89
	6083	D	1.13	0.15	1.35	0.06	0.09	0.09	1520.77	0.22	4.51	0.59	5.39	0.23	0.34	0.34	6083.06	0.89
	6084	E	1.13	0.15	1.35	0.06	0.09	0.09	1520.77	0.22	4.51	0.59	5.39	0.23	0.34	0.34	6083.06	0.89
	6080	A	0.10	0.01	0.31	0.15	0.01	0.01	127.15	0.02	0.40	0.05	1.22	0.59	0.04	0.04	508.60	0.08
	6081	B	0.10	0.01	0.31	0.15	0.01	0.01	127.15	0.02	0.40	0.05	1.22	0.59	0.04	0.04	508.60	0.08
	6082	C	0.10	0.01	0.31	0.15	0.01	0.01	127.15	0.02	0.40	0.05	1.22	0.59	0.04	0.04	508.60	0.08
	6083	D	0.10	0.01	0.31	0.15	0.01	0.01	127.15	0.02	0.40	0.05	1.22	0.59	0.04	0.04	508.60	0.08
	6084	E	0.10	0.01	0.31	0.15	0.01	0.01	127.15	0.02	0.40	0.05	1.22	0.59	0.04	0.04	508.60	0.08
<b>Totals:</b>			<b>6.14</b>	<b>0.80</b>	<b>8.27</b>	<b>1.03</b>	<b>0.48</b>	<b>0.48</b>	<b>8239.58</b>	<b>1.21</b>	<b>24.55</b>	<b>3.18</b>	<b>33.08</b>	<b>4.11</b>	<b>1.90</b>	<b>1.90</b>	<b>32958.32</b>	<b>4.86</b>

**Table 5.2 Emission Totals****A. Daily - lbs**

<b>Equipment Category</b>	<b>NOx</b>	<b>ROC</b>	<b>CO</b>	<b>SOx</b>	<b>PM</b>	<b>PM10</b>	<b>GHG</b>
External Combustion	128.43	13.19	534.05	35.11	18.33	18.33	285,871.25
Reciprocating IC Engines	1,040.22	4,525.82	15.93	672.88	672.88	887,123.61	12.80
Turbines	671.98	82.38	2,039.76	980.25	62.17	62.17	847,611.60
Bulk Fuel Storage		13.32					
Abrasive Blasting		63.81					
Spray Booths		104.03					
Solvent Usage		70.73					
Landfill Gas		7.10					
Mobile Vehicle Fueling		20.68					
Hypergolic Fuel Storage and Handling	82.59	34.53					
<b>Totals (lb/day)</b>	<b>1,923.22</b>	<b>36,551.78</b>	<b>2,589.74</b>	<b>1,688.23</b>	<b>753.38</b>	<b>887,204.11</b>	<b>1,133,495.64</b>

**B. Annual - tons**

<b>Equipment Category</b>	<b>NOx</b>	<b>ROC</b>	<b>CO</b>	<b>SOx</b>	<b>PM</b>	<b>PM10</b>	<b>GHG</b>
External Combustion	21.28	2.24	91.86	5.98	3.11	3.11	48,538.16
Reciprocating IC Engines	29.81	2.23	13.68	0.05	1.28	1.28	2,876.26
Turbines	27.01	3.52	33.08	4.11	2.06	2.06	36,452.05
Bulk Fuel Storage		0.30					
Abrasive Blasting		14.08					
Spray Booths		11.41					
Solvent Usage		7.34					
Landfill Gas		1.30					
Mobile Vehicle Fueling		3.77					
Hypergolic Fuel Storage and Handling	0.29	0.06					
<b>Totals (lb/day)</b>	<b>78.39</b>	<b>2,808.17</b>	<b>138.62</b>	<b>10.14</b>	<b>6.45</b>	<b>6.45</b>	<b>87,866.48</b>

**Table 5.3 Federal Potential to Emit****A. Daily - lbs**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM10</b>	<b>GHG</b>
External Combustion	128.43	13.19	534.05	35.11	18.33	18.33	285,871.25
Reciprocating IC Engines	1,040.22	4,525.82	15.93	672.88	672.88	887,123.61	12.80
Turbines	671.98	82.38	2,039.76	980.25	62.17	62.17	847,611.60
Bulk Fuel Storage		13.32					
Abrasive Blasting		63.81					
Spray Booths		104.03					
Solvent Usage		70.73					
Landfill Gas							
Mobile Vehicle Fueling		20.68					
Hypergolic Fuel Storage and Handling	82.59	34.53					
<b>Totals (lb/day)</b>	<b>1,923.22</b>	<b>4,928.48</b>	<b>2,589.74</b>	<b>1,688.23</b>	<b>753.38</b>	<b>887,204.11</b>	<b>1,133,495.64</b>

**B. Annual - tons**

<b>Equipment Category</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM10</b>	<b>GHG</b>
External Combustion	21.28	2.24	91.86	5.98	3.11	3.11	48,538.16
Reciprocating IC Engines	29.81	2.23	13.68	0.05	1.28	1.28	2,876.26
Turbines	27.01	3.52	33.08	4.11	2.06	2.06	36,452.05
Bulk Fuel Storage		0.30					
Abrasive Blasting		14.08					
Spray Booths		11.41					
Solvent Usage		7.34					
Landfill Gas							
Mobile Vehicle Fueling		3.77					
Hypergolic Fuel Storage and Handling	0.29	0.06					
Permit Exempt Equipment	99.50	17.34				5.62	28,799.92
<b>Totals (lb/day)</b>	<b>177.89</b>	<b>62.29</b>	<b>138.62</b>	<b>10.14</b>	<b>6.45</b>	<b>12.07</b>	<b>116,666.40</b>



**Table 5.4 HAP Emission Factors**

Equipment Category	Description	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform
Boilers	Natural Gas	4.22E-06	2.65E-06			1.96E-07	7.84E-06	1.18E-08		1.08E-06					
	LPG	4.15E-06	2.62E-06			1.96E-07	7.76E-06	1.18E-08		1.08E-06					
Diesel IC Engines		7.83E-01	3.39E-02			1.60E-03	1.86E-01		2.17E-01	1.50E-03				2.00E-04	
Turbines	Natural Gas	4.00E-05	6.40E-06				1.20E-05		4.30E-07						
	Diesel					1.10E-05	5.50E-05	3.10E-07	1.60E-05	4.80E-06					
Bulk Fuel Storage	RP-1														
	JP-8						3.20E-05								
Abrasive Blasting															
Coatings															
Solvent Usage							5.00E-02								
Landfill Gas				5.48E+01			1.41E+02				7.24E+00	1.01E-01	4.83E+00	4.62E+00	5.88E-01
Mobile Vehicle Fueling	Gasoline						1.30E-02								
	E-85						1.90E-03								
	Kerosene														
Degasifier	H <sub>2</sub> S														
Scrubber	Nitrogen Tetroxide														
	Aerozine-50														
Microwave Reactor	Hypergolic Fuel														
	Hypergolic Oxygen														

Equipment Category	Description	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride	Formaldehyde	Glycol Ethers	HCL	Hexane
Boilers	Natural Gas		1.37E-06	8.24E-08			9.31E-06					1.67E-05			6.18E-06
	LPG		1.37E-06	8.24E-08			9.18E-06					1.65E-05			6.12E-06
Diesel IC Engines			6.00E-04				1.09E-02					1.73E+00		1.86E-01	2.69E-02
Turbines	Natural Gas						3.20E-05					7.10E-04			
	Diesel		1.10E-05									2.80E-04			
Bulk Fuel Storage	RP-1						1.00E-02								
	JP-8						9.60E-05								6.40E-05
Abrasive Blasting															
Coatings							1.12E-02						6.29E-02		
Solvent Usage															
Landfill Gas		5.88E-01			5.06E+00		8.01E+01	1.38E+01	3.08E-02	6.66E+00	3.90E+01				9.33E+01
Mobile Vehicle Fueling	Gasoline						1.82E-02								1.30E-02
	E-85						2.66E-03								1.90E-03
	Kerosene						1.00E-02								
Degasifier	H <sub>2</sub> S														
Scrubber	Nitrogen Tetroxide														
	Aerozine-50					5.00E-01									
Microwave Reactor	Hypergolic Fuel														
	Hypergolic Oxygen														



Equipment Category	Description	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	Trichloroethylene	Vinyl Chloride	Vinylidene Chloride	Xylene	Units
Boilers	Natural Gas			2.35E-08				3.49E-05				2.67E-05	lb/MMBtu
	LPG			2.35E-08				3.55E-05				2.63E-05	lb/MMBtu
Diesel IC Engines				2.20E-03				1.05E-01				4.24E-02	lb/1000 gal
Turbines	Natural Gas		2.90E-05					1.30E-04				6.40E-05	lb/MMBtu
	Diesel			2.50E-05									lb/MMBtu
Bulk Fuel Storage	RP-1												lb/lb ROC
	JP-8							3.04E-04				2.08E-04	lb/1000 gal
Abrasive Blasting													NA
Coatings					2.09E-03			1.92E-01				5.36E-02	lb/lb ROC
Solvent Usage								5.00E-02				5.00E-02	lb/lb ROC
Landfill Gas		3.34E+00				3.03E+01	1.01E+02	2.57E+03	6.04E+01	7.48E+01	3.18E+00	2.09E+02	lb/yr
Mobile Vehicle Fueling	Gasoline							9.10E-02				9.10E-02	lb/1000 gal
	E-85							1.33E-02				1.33E-02	lb/1000 gal
	Kerosene												lb/lb ROC
Degasifier	H <sub>2</sub> S												NA
Scrubber	Nitrogen Tetroxide												NA
	Aerozine-50												lb/lb ROC
Microwave Reactor	Hypergolic Fuel												lb/event
	Hypergolic Oxygen												NA

Table 5.5-1 Boiler HAP Emissions (TPY)

Building	Device ID	Operator ID	Fuel Type	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine
836	111100	3872	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
836	111101	3873	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
836	111713	3049	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
980	111714	1024	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1819	111722	3124	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4117	114600	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4118	114601	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4119	114602	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4120	114603	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2520	111723	3169	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2520	111724	3170	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000	111712	3043	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000	111758	3044	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6523	111779	3204	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7000	111844	3934	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7000	111845	3935	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7025	3283	113533	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7025	3284	113534	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7425	111731	1052	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7437	111757	3174	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7523	4060	113920	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7523	4061	113921	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8510	112964	3996	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8510	112965	3997	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Building	Device ID	Operator ID	Fuel Type	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine
10711	111748	3888	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112251	3930	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112252	3931	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13137	111749	1117	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13137	111750	1118	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13330	4099	113919	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13330	4100	113918	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111753	3729	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111754	3730	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111755	3731	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23225	111756	1153	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23225	111874	1154	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Building	Device ID	Operator ID	Fuel Type	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine
836	111100	3872	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
836	111101	3873	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
836	111713	3049	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
980	111714	1024	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1819	111722	3124	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4117	114600	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4118	114601	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4119	114602	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4120	114603	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2520	111723	3169	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2520	111724	3170	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000	111712	3043	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000	111758	3044	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6523	111779	3204	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7000	111844	3934	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7000	111845	3935	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7025	3283	113533	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7025	3284	113534	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7425	111731	1052	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7437	111757	3174	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7523	4060	113920	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7523	4061	113921	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8510	112964	3996	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8510	112965	3997	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10711	111748	3888	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112251	3930	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112252	3931	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Building	Device ID	Operator ID	Fuel Type	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine
13137	111749	1117	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13137	111750	1118	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13330	4099	113919	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13330	4100	113918	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111753	3729	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111754	3730	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111755	3731	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23225	111756	1153	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23225	111874	1154	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Building	Device ID	Operator ID	Fuel Type	Methyl Isobutyl Ketone	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	Trichloroethylene	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
836	111100	3872	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
836	111101	3873	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
836	111713	3049	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
980	111714	1024	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1819	111722	3124	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4117	114600	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4118	114601	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4119	114602	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1900	4120	114603	LPG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2520	111723	3169	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2520	111724	3170	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000	111712	3043	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000	111758	3044	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6523	111779	3204	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7000	111844	3934	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7000	111845	3935	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7025	3283	113533	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7025	3284	113534	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7425	111731	1052	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7437	111757	3174	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7523	4060	113920	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7523	4061	113921	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8510	112964	3996	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8510	112965	3997	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10711	111748	3888	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112251	3930	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112252	3931	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Building	Device ID	Operator ID	Fuel Type	Methyl Isobutyl Ketone	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	Trichloroethylene	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
13137	111749	1117	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13137	111750	1118	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13330	4099	113919	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13330	4100	113918	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111753	3729	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111754	3730	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	111755	3731	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23225	111756	1153	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23225	111874	1154	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.05</b>

**Table 5.5-2 Turbine HAP Emissions (TPY)**

Building	Device ID	Operator ID	Fuel Type	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine
SVPP	6080	A	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6081	B	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6082	C	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6083	D	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6084	E	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6080	A	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6081	B	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6082	C	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6083	D	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6084	E	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			<b>Total</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Building	Device ID	Operator ID	Fuel Type	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine	Methyl Isobutyl Ketone
SVPP	6080	A	NG	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6081	B	NG	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6082	C	NG	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6083	D	NG	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6084	E	NG	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6080	A	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6081	B	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6082	C	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6083	D	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6084	E	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			<b>Total</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.19</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



Building	Device ID	Operator ID	Fuel Type	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	Trichloroethylene	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
SVPP	6080	A	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.05
SVPP	6081	B	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.05
SVPP	6082	C	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.05
SVPP	6083	D	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.05
SVPP	6084	E	NG	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.05
SVPP	6080	A	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6081	B	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6082	C	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6083	D	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	6084	E	Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.29</b>

**Table 5.5-4 Engine HAP Emissions (TPY)**

Building	Device ID	Operator ID	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride
64	112818	3980	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	107135	564	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	107136	567	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
383	112688	3976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
425	106942	3007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
501	106943	3008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
511	114491	4005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104867	818	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104868	820	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104869	821	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104870	822	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104871	823	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
529	114779	4297	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
661	107005	3009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
764	107097	3540	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	107000	3397	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
830	111766	3906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
906	106944	3012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
929	111765	3927	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
968	107146	3024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
968	107145	3025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
980	107068	3553	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1559	107006	3050	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1561	107031	3411	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1581	107037	3315	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1594	113003	4039	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1604	108889	3626	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1618	106999	3318	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1629	106998	3317	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1639	106948	3390	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	113916	4109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1747	112689	3639	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1748	107032	642	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Building	Device ID	Operator ID	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride
1762	107007	3183	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1764	106939	643	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1768	107085	3573	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1829	107141	645	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1829	107142	649	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1916	110696	3791	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1917	107100	3548	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1919	111769	3921	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1937	107088	3329	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1962	107067	3549	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1964	107066	3550	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1965	110364	3790	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1971	107065	3551	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1972	107064	3552	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1980	106399	3587	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2305	107143	655	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2500	107126	3181	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2520	110738	3814	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3000	107127	3420	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6253	114383	4286	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6510	110735	3815	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7425	112253	3936	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8195	113917	4116	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8317	114377	4123	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8401	110201	3747	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8510	106946	3052	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10525	107003	697	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10579	107038	589	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10660	107004	698	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11439	107034	699	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12000	107087	3185	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12000	114696	4268	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112255	3928	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12006	112256	3929	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13850	107035	3061	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Building	Device ID	Operator ID	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride
21150	107137	705	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21203	109236	3642	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23201	111125	3582	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23209	107144	706	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113280	4010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113281	4011	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113282	4012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113283	4013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	133284	4014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104867	Starter Engine A.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104868	Starter Engine B.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104869	Starter Engine C.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104870	Starter Engine D.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104871	Starter Engine E.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		<b>Total</b>	<b>0.04</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Building	Device ID	Operator ID	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine	Methyl Isobutyl Ketone	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	Trichloroethylene
64	112818	3980	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	107135	564	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	107136	567	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
383	112688	3976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
425	106942	3007	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
501	106943	3008	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
511	114491	4005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104867	818	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104868	820	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104869	821	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104870	822	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
525	104871	823	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
529	114779	4297	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
661	107005	3009	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
764	107097	3540	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	107000	3397	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
830	111766	3906	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
906	106944	3012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
929	111765	3927	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
968	107146	3024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
968	107145	3025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
980	107068	3553	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1559	107006	3050	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1561	107031	3411	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1581	107037	3315	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1594	113003	4039	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1604	108889	3626	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1618	106999	3318	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1629	106998	3317	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1639	106948	3390	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1735	113916	4109	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1747	112689	3639	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1748	107032	642	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1762	107007	3183	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1764	106939	643	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

[illegible]

Building	Device ID	Operator ID	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine	Methyl Isobutyl Ketone	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	Trichloroethylene
23201	111125	3582	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23209	107144	706	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113280	4010	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113281	4011	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113282	4012	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	113283	4013	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NA	133284	4014	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104867	Starter Engine A.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104868	Starter Engine B.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104869	Starter Engine C.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104870	Starter Engine D.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SVPP	104871	Starter Engine E.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		<b>Total</b>	<b>0.09</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>

Building	Device ID	Operator ID	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
64	112818	3980	0.00	0.00	0.00	0.01
185	107135	564	0.00	0.00	0.00	0.00
185	107136	567	0.00	0.00	0.00	0.00
383	112688	3976	0.00	0.00	0.00	0.00
425	106942	3007	0.00	0.00	0.00	0.00
501	106943	3008	0.00	0.00	0.00	0.00
511	114491	4005	0.00	0.00	0.00	0.01
525	104867	818	0.00	0.00	0.00	0.00
525	104868	820	0.00	0.00	0.00	0.00
525	104869	821	0.00	0.00	0.00	0.00
525	104870	822	0.00	0.00	0.00	0.00
525	104871	823	0.00	0.00	0.00	0.00
529	114779	4297	0.00	0.00	0.00	0.01
661	107005	3009	0.00	0.00	0.00	0.00
764	107097	3540	0.00	0.00	0.00	0.00
14	107000	3397	0.00	0.00	0.00	0.00
830	111766	3906	0.00	0.00	0.00	0.01
906	106944	3012	0.00	0.00	0.00	0.00
929	111765	3927	0.00	0.00	0.00	0.00
968	107146	3024	0.00	0.00	0.00	0.00
968	107145	3025	0.00	0.00	0.00	0.00
980	107068	3553	0.00	0.00	0.00	0.00
1559	107006	3050	0.00	0.00	0.00	0.00
1561	107031	3411	0.00	0.00	0.00	0.00
1581	107037	3315	0.00	0.00	0.00	0.00
1594	113003	4039	0.00	0.00	0.00	0.00
1604	108889	3626	0.00	0.00	0.00	0.00
1618	106999	3318	0.00	0.00	0.00	0.00
1629	106998	3317	0.00	0.00	0.00	0.00
1639	106948	3390	0.00	0.00	0.00	0.00
1735	113916	4109	0.00	0.00	0.00	0.00
1747	112689	3639	0.00	0.00	0.00	0.00
1748	107032	642	0.00	0.00	0.00	0.00
1762	107007	3183	0.00	0.00	0.00	0.00
1764	106939	643	0.00	0.00	0.00	0.00



Building	Device ID	Operator ID	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
1768	107085	3573	0.00	0.00	0.00	0.00
1829	107141	645	0.00	0.00	0.00	0.00
1829	107142	649	0.00	0.00	0.00	0.00
1916	110696	3791	0.00	0.00	0.00	0.00
1917	107100	3548	0.00	0.00	0.00	0.00
1919	111769	3921	0.00	0.00	0.00	0.00
1937	107088	3329	0.00	0.00	0.00	0.00
1962	107067	3549	0.00	0.00	0.00	0.00
1964	107066	3550	0.00	0.00	0.00	0.00
1965	110364	3790	0.00	0.00	0.00	0.00
1971	107065	3551	0.00	0.00	0.00	0.00
1972	107064	3552	0.00	0.00	0.00	0.00
1980	106399	3587	0.00	0.00	0.00	0.00
2305	107143	655	0.00	0.00	0.00	0.00
2500	107126	3181	0.00	0.00	0.00	0.00
2520	110738	3814	0.00	0.00	0.00	0.01
3000	107127	3420	0.00	0.00	0.00	0.00
6253	114383	4286	0.00	0.00	0.00	0.01
6510	110735	3815	0.00	0.00	0.00	0.00
7425	112253	3936	0.00	0.00	0.00	0.01
8195	113917	4116	0.00	0.00	0.00	0.00
8317	114377	4123	0.00	0.00	0.00	0.00
8401	110201	3747	0.00	0.00	0.00	0.00
8510	106946	3052	0.00	0.00	0.00	0.00
10525	107003	697	0.00	0.00	0.00	0.00
10579	107038	589	0.00	0.00	0.00	0.00
10660	107004	698	0.00	0.00	0.00	0.00
11439	107034	699	0.00	0.00	0.00	0.00
12000	107087	3185	0.00	0.00	0.00	0.00
12000	114696	4268	0.00	0.00	0.00	0.01
12006	112255	3928	0.00	0.00	0.00	0.01
12006	112256	3929	0.00	0.00	0.00	0.01
13850	107035	3061	0.00	0.00	0.00	0.00
21150	107137	705	0.00	0.00	0.00	0.00
21203	109236	3642	0.00	0.00	0.00	0.01

Building	Device ID	Operator ID	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
23201	111125	3582	0.00	0.00	0.00	0.00
23209	107144	706	0.00	0.00	0.00	0.00
NA	113280	4010	0.00	0.00	0.00	0.00
NA	113281	4011	0.00	0.00	0.00	0.00
NA	113282	4012	0.00	0.00	0.00	0.00
NA	113283	4013	0.00	0.00	0.00	0.00
NA	133284	4014	0.00	0.00	0.00	0.00
SVPP	104867	Starter Engine A.1	0.00	0.00	0.00	0.00
SVPP	104868	Starter Engine B.1	0.00	0.00	0.00	0.00
SVPP	104869	Starter Engine C.1	0.00	0.00	0.00	0.00
SVPP	104870	Starter Engine D.1	0.00	0.00	0.00	0.00
SVPP	104871	Starter Engine E.1	0.00	0.00	0.00	0.00
		<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.18</b>

Table 5.5-4 Coating HAP Emissions (TPY)

Building Number	Device No.	Operator ID	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride
831	105841	4174	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
875	6096	1598	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
1800	6100	1600	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
7437	6195	PSB01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
8190	105649	1603	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
9320	105846	1591	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9320	105847	1592	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9327	113676	4096	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
10711	107930	1604	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
11438	107924	1605	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
1620D	105785	1599	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
		<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.13</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Building Number	Device No.	Operator ID	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine	Methyl Isobutyl Ketone	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene
831	105841	4174	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
875	6096	1598	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
1800	6100	1600	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
7437	6195	PSB01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
8190	105649	1603	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
9320	105846	1591	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
9320	105847	1592	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
9327	113676	4096	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
10711	107930	1604	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
11438	107924	1605	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.62
1620D	105785	1599	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
		<b>Total</b>	<b>0.00</b>	<b>0.72</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.15</b>	<b>0.00</b>	<b>0.29</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>2.19</b>

Building Number	Device No.	Operator ID	Trichloroethylene	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
831	105841	4174	0.00	0.00	0.00	0.03	<b>0.20</b>
875	6096	1598	0.00	0.00	0.00	0.04	<b>0.26</b>
1800	6100	1600	0.00	0.00	0.00	0.05	<b>0.36</b>
7437	6195	PSB01	0.00	0.00	0.00	0.03	<b>0.18</b>
8190	105649	1603	0.00	0.00	0.00	0.06	<b>0.44</b>
9320	105846	1591	0.00	0.00	0.00	0.02	<b>0.11</b>
9320	105847	1592	0.00	0.00	0.00	0.02	<b>0.11</b>
9327	113676	4096	0.00	0.00	0.00	0.07	<b>0.44</b>
10711	107930	1604	0.00	0.00	0.00	0.08	<b>0.53</b>
11438	107924	1605	0.00	0.00	0.00	0.17	<b>1.17</b>
1620D	105785	1599	0.00	0.00	0.00	0.05	<b>0.32</b>
		<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.61</b>	<b>4.12</b>

### 5.5-5 Other Operations HAP Emissions (TPY)

Device No.	Operator ID	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride
109896/97	1702/1703	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107916	3599	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114257	VOC003	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114277	HAZMART	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110309	HAZMART2	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110180	2703	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9890	1859	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110229	3907	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TBD	3399	0.00	0.00	0.03	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.02
109369	434	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
107919	3508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9167	3415	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
7602	345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7602	347	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6926	4173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6925	4172	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
113616	3417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113621	3418	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6223	2067	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
6223	2069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104469	2068	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113065	4054	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113079	4055	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>	<b>0.00</b>	<b>0.48</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.10</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>

Device No.	Operator ID	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine	Methyl Isobutyl Ketone	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene
109896/97	1702/1703	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107916	3599	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114257	VOC003	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
114277	HAZMART	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
110309	HAZMART2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
110180	2703	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9890	1859	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110229	3907	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TBD	3399	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	1.28
109369	434	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
107919	3508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
9167	3415	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
7602	345	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7602	347	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6926	4173	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6925	4172	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113616	3417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113621	3418	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6223	2067	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6223	2069	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104469	2068	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113065	4054	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113079	4055	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.09</b>	<b>0.03</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.04</b>	<b>0.00</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.05</b>	<b>1.93</b>

Device No.	Operator ID	Trichloroethylene	Vinyl Chloride	Vinylidene Chloride	Xylene	Total
109896/97	1702/1703	0.00	0.00	0.00	0.00	<b>0.00</b>
107916	3599	0.00	0.00	0.00	0.00	<b>0.00</b>
114257	VOC003	0.00	0.00	0.00	0.16	<b>0.48</b>
114277	HAZMART	0.00	0.00	0.00	0.16	<b>0.48</b>
110309	HAZMART2	0.00	0.00	0.00	0.05	<b>0.15</b>
110180	2703	0.00	0.00	0.00	0.00	<b>0.00</b>
9890	1859	0.00	0.00	0.00	0.00	<b>0.00</b>
110229	3907	0.00	0.00	0.00	0.00	<b>0.00</b>
TBD	3399	0.03	0.04	0.00	0.10	<b>1.81</b>
109369	434	0.00	0.00	0.00	0.05	<b>0.14</b>
107919	3508	0.00	0.00	0.00	0.01	<b>0.02</b>
9167	3415	0.00	0.00	0.00	0.22	<b>0.54</b>
7602	345	0.00	0.00	0.00	0.00	<b>0.00</b>
7602	347	0.00	0.00	0.00	0.00	<b>0.00</b>
6926	4173	0.00	0.00	0.00	0.00	<b>0.00</b>
6925	4172	0.00	0.00	0.00	0.00	<b>0.05</b>
113616	3417	0.00	0.00	0.00	0.00	<b>0.00</b>
113621	3418	0.00	0.00	0.00	0.00	<b>0.00</b>
6223	2067	0.00	0.00	0.00	0.00	<b>0.01</b>
6223	2069	0.00	0.00	0.00	0.00	<b>0.00</b>
104469	2068	0.00	0.00	0.00	0.00	<b>0.00</b>
113065	4054	0.00	0.00	0.00	0.00	<b>0.00</b>
113079	4055	0.00	0.00	0.00	0.00	<b>0.00</b>
	<b>Total</b>	<b>0.03</b>	<b>0.04</b>	<b>0.00</b>	<b>0.75</b>	<b>3.68</b>

Table 5.6 Total HAP Emissions (TPY)

Equipment Category	Acetaldehyde	Acrolein	Acrylonitrile	Antimony	Arsenic	Benzene	Beryllium	1,3-butadiene	Cadmium	Carbon disulfide	Carbon tetrachloride	Carbonyl sulfide	Chlorobenzene	Chloroform	Chromium	Cobalt	Dichlorobenzene	1,1-Dimethyl Hydrazine	Ethylbenzene	Ethyl Chloride	Ethylene Dibromide	Ethylene Dichloride	Ethylidene Dichloride
Boilers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Diesel IC Engines	0.04	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turbines	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Bulk Fuel Storage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Abrasive Blasting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coatings	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00
Solvent Usage	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landfill Gas	0.00	0.00	0.03	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.02
Mobile Vehicle Fueling	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Degasifier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scrubber	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Microwave Reactor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Totals (TPY)</b>	<b>0.05</b>	<b>0.00</b>	<b>0.03</b>	<b>0.00</b>	<b>0.00</b>	<b>0.49</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.03</b>	<b>0.24</b>	<b>0.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.02</b>



Equipment Category	Formaldehyde	Glycol Ethers	HCL	Hexane	Hydrazine	Lead	Manganese	Mercury	Methanol	Methyl Chloroform	Methyl Ethyl Ketone	Methyl Hydrazine	Methyl Isobutyl Ketone	Napthalene	Nickel	PAH	Propylene Dichloride	Propylene Oxide	Selenium	Styrene	Tetrachloroethane	Tetrachloroethylene	Toluene
Boilers	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Diesel IC Engines	0.09	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Turbines	0.19	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03
Bulk Fuel Storage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Abrasive Blasting	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coatings	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	2.19
Solvent Usage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
Landfill Gas	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.05	1.28
Mobile Vehicle Fueling	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
Degasifier	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Scrubber	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Microwave Reactor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Totals (TPY)</b>	<b>0.29</b>	<b>0.72</b>	<b>0.01</b>	<b>0.09</b>	<b>0.03</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.15</b>	<b>0.01</b>	<b>0.34</b>	<b>0.00</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.01</b>	<b>0.00</b>	<b>0.02</b>	<b>0.02</b>	<b>0.05</b>	<b>4.18</b>

<b>Equipment Category</b>	<b>Trichloroethylene</b>	<b>Vinyl Chloride</b>	<b>Vinylidene Chloride</b>	<b>Xylene</b>	<b>Total</b>
Boilers	0.00	0.00	0.00	0.01	<b>0.05</b>
Diesel IC Engines	0.00	0.00	0.00	0.00	<b>0.18</b>
Turbines	0.00	0.00	0.00	0.02	<b>0.29</b>
Bulk Fuel Storage	0.00	0.00	0.00	0.00	<b>0.00</b>
Abrasive Blasting	0.00	0.00	0.00	0.00	<b>0.00</b>
Coatings	0.00	0.00	0.00	0.61	<b>4.12</b>
Solvent Usage	0.00	0.00	0.00	0.37	<b>1.10</b>
Landfill Gas	0.03	0.04	0.00	0.10	<b>1.81</b>
Mobile Vehicle Fueling	0.00	0.00	0.00	0.28	<b>0.70</b>
Degasifier	0.00	0.00	0.00	0.00	<b>0.00</b>
Scrubber	0.00	0.00	0.00	0.00	<b>0.06</b>
Microwave Reactor	0.00	0.00	0.00	0.00	<b>0.00</b>
<b>Totals (TPY)</b>	<b>0.03</b>	<b>0.04</b>	<b>0.00</b>	<b>1.39</b>	<b>8.31</b>



Table O - Offset Liability Table for VAFB  
Updated: June 19, 2012

Item	Current Permit	No.	Original Issue Date	Project	tons/quarter						Notes	ERC Source
					NOx	ROC	CO	SOx	PM <sub>10</sub>	PM		
1	Reeval	8658-R5	04/14/94	SLC-2 Fueling Systems (Scrubber)	0.011	--	--	--	--	--	(d) (f)	#001
2	Reeval	8688-R4	06/01/94	JP-8 Fuel Storage - Bldg 1705	--	0.070	--	--	--	--	(d) (f)	#001
3	Reeval	8686-R4	11/09/94	SLC-2 Fueling Systems (RP-1)	--	0.005	--	--	--	--	(d) (f)	#001
4	Reeval	9221-R1	06/19/96	Boilers Bldg 398	0.055	0.015	--	0.048	0.035	0.035	(d) (f)	#001
5	Reeval	9225-R4	02/27/97	Boilers Bldg 1900	0.000	0.000	--	0.000	0.000	0.000	(d) (f) (s)	#001
6	Reeval	9574-R3	03/25/97	Training ICE. Bldg 7524	0.000	0.000	--	0.000	0.000	0.000	(d) (f)	#001
7	Reeval	6117-R8	06/30/97	SVPP Modifications	--	0.117	--	--	0.139	0.139	(d) (f)	#001
8	Reeval	7987-R5	01/31/91	Hypergolic Fuel Storage - Bldgs 976/977	--	0.050	--	--	--	--		#056
9	Reeval	8580-R5	12/05/91	Surface Coating - Bldg 875	--	0.183	--	--	--	--	(f)	#001
10	Reeval	8350-R6	12/10/91	Surface Coating - Bldg 831	--	0.138	--	--	--	--	(f)	#001
11	Canceled	9171-R2	06/06/94	Portable Fuel Vapor Scrubber SLC-3	0.000	0.000	--	--	--	--	(k)	#001
12	Reeval	9846-R6	02/10/98	SLC-3E Rocket Fuel Storage	--	0.010	--	--	--	--		#056
13	Reeval	9954-R1	11/10/98	Building 1900 SCO & ABS	--	0.058	--	--	--	--		#056
14	Reeval	6117-R8	07/25/01	SVPP Modifications	--	0.090	--	--	--	--		#056
15	ATC Mod	10791-03	05/29/02	Gas Station Bldg 14400	--	0.760	--	--	--	--		#056
16	ATC/PTO	13826	06/05/12	Boeing EELV ABS SLC-6	--	--	--	--	0.018	0.018	(u)	#062
17	ATC/PTO	10846-02	06/19/03	Boeing EELV Marine Vessels	1.451	0.095	--	--	0.097	0.101		#59, #62, #64
18	ATC/PTO	10846-02	06/19/03	Boeing EELV Marine Vessels (Tug Buffer)	0.152	0.012	--	--	0.015	0.016	(e)	#59, #62, #64
19	Reeval	10956-R2	06/19/03	Boeing EELV Solvents	--	0.781	--	--	--	--	(g)	#66
20	Reeval	11143-R1	10/14/04	Solvents Used for New / Modified Projects	--	0.250	--	--	--	--	(h)	#92
21	ATC	11262	11/17/04	SpaceX Solvent and Fuel Handling	--	0.013	--	--	--	--	(i)	#106
22	ATC	11240	04/27/05	Lockheed Martin EELV Solvent Use	--	0.025	--	--	--	--	(J)	#121
23	Reeval	11772-R1	12/15/05	New Backup Generator at Bldg 1980	0.074	0.007	--	--	--	--	(f)	#103
24	Reeval	12133-R1	11/28/06	New Backup Generator at Bldg 1604	0.076	0.005	--	--	0.004	0.004	(f)	#129
25	PTO	12205	01/2/007	New Backup Generator at Bldg 21203 CT-1	0.375	0.025	--	--	0.001	0.001	(f)	#138
26	ATC	12234	05/29/07	New Backup Generator at Bldg 1747	0.000	0.000	--	--	0.000	0.000	(f) (o)	#138
27	Reeval	12330-R1	09/12/07	New Backup Generator at Bldg 8401	0.187	0.012	--	--	0.006	0.006	(l)	#148, #107
28	PTO	12356	10/19/07	364 bhp Backup Generator at Bldg 1965	0.056	0.004	--	--	0.003	0.003	(l)	#150, #151
29	PTO	12419	01/23/08	546 bhp Backup Generator at RIDT#2	0.087	0.006	--	--	0.005	0.005	(l) (p)	#156, #157
30	PTO	12454	03/18/08	399 bhp Backup Generator at Bldg 6510	0.062	0.004	--	--	0.003	0.003	(l)	#158, #159
31	PTO	12455	05/08/08	New Backup Gen. w/DPF at Bldg 2520	0.370	0.025	--	--	0.002	0.002	(l)	#158, #159
32	PTO	12640	05/14/08	Two New Boilers in Bldg 836	0.042	0.006	--	--	0.008	0.008	(l)	#160, #161
33	PTO	12793	10/02/08	1,490 bhp Backup Generator at Bldg 830	0.370	0.025	--	--	0.012	0.012	(l)	#162, #163
34	Reeval	12820-R1	10/02/08	New DICE Fire Water Pump at Bldg 1919	0.019	0.001	--	--	0.001	0.001	(l)	#162, #163
35	PTO	12843	10/02/08	New Backup Generator at Bldg 929	0.145	0.010	--	--	0.000	0.000	(l)	#162, #163
36	PTO	12896	10/23/08	Two New Boilers at Bldg 7000	0.057	0.009	--	--	0.012	0.012	(l)	#167, #168
37	PTO	12922	01/26/09	New 207 bhp Training Squadron Engine	0.236	0.034	--	--	0.014	0.014	(l)	#184, #187
38	PTO	12964	01/26/09	New Boiler in Bldg 1800	0.010	0.002	--	--	0.002	0.002	(l)	#184, #187
39	PTO	12916	02/06/09	Two New DICE BUGs at Bldg 12006	1.449	0.097	--	--	0.048	0.048	(l)	#193, #194
40	PTO	12917	02/06/09	Two New Boilers at Bldg 12006	0.032	0.005	--	--	0.007	0.007	(l)	#193, #194
41	ATC/PTO	12962	04/16/09	ULA Atlas Solvent Use Increase	--	0.052	--	--	--	--	(m)	#185
42	Reeval	13112-R1	05/01/09	ULA Delta DICE BUG at SLC-6	0.165	0.011	--	--	0.006	0.006	(n)	#165
43	PTO	13223	08/31/09	New Backup Generator at Bldg 383	0.056	0.004	--	--	0.003	0.003	(l)	#195, #196
44	PTO	13224	08/31/09	New Backup Generator at Bldg 1747	0.187	0.012	--	--	0.006	0.006	(f) (o)	#138
45	--	--	09/09/09	ENVVEST Compliance Plan	0.129	--	--	--	--	--	(l) (q)	#207
46	PTO	13329	02/11/10	Two New Boilers at Bldg 8510	0.058	0.009	--	--	0.012	0.012	(l)	#207, #208
47	PTO	13271	02/11/10	1,490 bhp DICE BUG at Bldg 64	0.370	0.025	--	--	0.012	0.012	(l)	#207, #208
48	PTO	13405	04/14/10	315 bhp DICE BUG at Bldg 1594	0.049	0.003	--	--	0.003	0.003	(l)	#220, #221
49	ATC	13439	07/13/10	315 bhp DICE BUG at Bldg 13330	0.049	0.003	--	--	0.003	0.003	(l)	#223, #224
50	PTO	13416	07/13/10	New Fueling System at SLC-2	0.023	0.003	--	--	--	--	(l)	#223, #224
51	ATC	13376	08/27/10	Five New Portable DICE BUGs	0.112	0.008	--	--	0.006	0.006	(l)	#229, #232
52	ATC	13342-01	08/27/10	New Backup Generator at CT-3	0.000	0.000	--	--	0.000	0.000	(t)	#229, #232
53	PTO	13493	11/18/10	New Spray Booth in Bldg 9327	--	0.310	--	--	--	--	(l)	#234
54	PTO	13537	12/02/10	Portable Hypergolic Fuel Scrubbers	0.000	0.008	--	--	--	--	(l)	#238
55	ATC	13624	07/20/11	Two Boilers in Bldg 13330	0.049	0.007	--	--	0.010	0.010	(l)	#233, #250
56	ATC	13672	07/20/11	New Backup Generator at Bldg 1735	0.188	0.013	--	--	0.006	0.006	(l)	#233, #250
57	ATC	13679	07/20/11	Two Boilers in Bldg 12000	0.029	0.004	--	--	0.006	0.006	(l)	#233, #250
58	ATC	13680	07/20/11	Two Boilers in Bldg 7523	0.058	0.009	--	--	0.012	0.012	(l)	#233, #250
59	ATC	13681	07/20/11	New Backup Generator at Bldg 8195	0.056	0.004	--	--	0.003	0.003	(l)	#233, #250
60	ATC/PTO	10846-03	10/25/11	ULA EELV Marine Vessels	1.091	0.067	--	--	0.070	0.073	(r)	#166, #204, #245
61	ATC	13754	03/07/12	250 bhp DICE BUG at Bldg 8317	0.039	0.003	--	--	0.002	0.002	(l)	#252, #253
62	ATC	13763	03/07/12	1,220 bhp DICE BUG at Bldg 6523	0.303	0.020	--	--	0.010	0.010	(l)	#252, #253
63	ATC	13847	05/24/12	New Backup Generator at CT-3	0.375	0.025	--	--	0.001	0.001	(l)	#273, #274
64	ATC	13753	06/05/12	Four Boilers in Bldg 1900	0.117	0.035	--	--	0.049	0.049	(l)	#275, #276
65	ATC	13886	06/20/12	New DICE BUG at Bldg 12000	0.283	0.019	--	--	0.009	0.009	(l)	#277, #278
66	ATC	13945	06/20/12	New DICE BUG at Bldg 529	0.074	0.005	--	--	0.002	0.002	(f)	#277
67	ATC	13897	TBD	Replacement Boiler in Bldg 12006	0.000	0.000	--	--	0.000	0.000	(v)	#193, #194
TOTALS =					9.176	3.608	0.000	0.048	0.662	0.670		

Notes

- (a) Permits with zero emission increases not shown in this table.
- (b) Table only includes post 11/15/90 offset requirements. See actual permits for prior (pre 11/15/90) offset requirements.
- (c) See Table E for ERCs required to mitigate the offset liability. ERC Source denotes the ERC Certificate # used.
- (d) Items 1-7 previously provided ERCs for this liability as part of the 1991 VAFB/APCD MOU (as adjusted per Rule 806.D.5).
- (e) Tug buffer amount per Boeing/APCD = 50%
- (f) ERCs provided from DOI #001 (original VAFB MOU). The ERC Source # reflects the most current ERC Certificate surrendered (at the time of this permit's issuance).
- (g) ATC 10956 permit is for solvent/coating use for the Boeing EELV project at SLC-6.
- (h) Solvents from the HazMart Pharmacy used for new / modified projects.
- (i) Solvents and fuel handling emissions from SpaceX Project at SLC-3W.
- (j) Solvents emissions from Lockheed Martin EELV Project at SLC-3E and various locations on VAFB.
- (k) PTO 9171 canceled 09/06/06 - emission values zeroed out.
- (l) ERCs provided from DOI #001 (original VAFB MOU) with additional ROC ERCs from DOI #0006.
- (m) ROC ERCs provided from DOI #0006. ATC/PTO 12962 superseded PTO 11240. The permitted 0.025 tpq of ROC emissions in PTO 11240 are included in ATC/PTO 12962 along with the 0.052 tpq ROC increase in ATC/PTO 12962, for a total of 0.077 tpq ROC, which are fully offset.
- (n) NOx, ROC & PM10 ERCs from DOI 0010 - Grefco shutdown.
- (o) ATC 12234 for a DICE BUG in Bldg 1747 expired May 2008 - zeroed out emission values. ATC 13224 was issued for the same DICE BUG. ERCs from Certificate #138 were transferred from ATC 12234 to ATC 13224.
- (p) The engine in PTO 12419 was 17 bhp larger than permitted in ATC 12419. VAFB provided an additional 0.003 tons/qr NOx ERCs on 08/11/09 to offset the additional NOx emissions.
- (q) ERCs were provided by VAFB for the ENVVEST Compliance Plan.
- (r) NOx, ROC, and PM10 ERCs provided for increased use of the M/V Delta Mariner. ERCs come from three certificates owned by ULA.
- (s) PTO 9225 for boilers in Bldg 1900 canceled 08/09/11 - emission values zeroed out.
- (t) ATC 13422-01 for a DICE BUG at CT-3 Canceled - emission values zeroed out. Replaced with ATC 13847.
- (u) ATC/PTO 13826 superseded Reeval 10788-R2. No changes to the values in this table.
- (v) ATC 13897 is for the identical replacement of a boiler permitted by ATC 12917. Emissions were offset when ATC 12917 was issued. See line 40 above.

Table E - Emission Reduction Credits Table for VAFB  
Updated: June 19, 2012

Item	ERC Certificate	Surrender Date	Emission Reduction Credits ---- tons/quarter ----						Offset Ratio	Equivalent Offsets Value after Offset Ratio ---- tons/quarter ----						NOTES
			NOx	ROC	CO	SOx	PM <sub>10</sub>	PM		NOx	ROC	CO	SOx	PM <sub>10</sub>	PM	
1	#252	03/28/08	7.581	0.706	0.000	0.058	0.548	0.548	1.2	6.317	0.588	--	0.048	0.457	0.457	(c) (h)
2	#059	11/12/02	1.020	0.128	--	--	--	--	1.2	0.850	0.107	--	--	--	--	(d)
3	#062	11/12/02	--	--	--	--	0.156	0.161	1.2	--	--	--	--	0.130	0.134	(e)
4	#064	11/12/02	0.904	--	--	--	--	--	1.2	0.753	--	--	--	--	--	(f)
5	#056	11/05/02	--	1.162	--	--	--	--	1.2	--	0.968	--	--	--	--	(g)
6	#066	01/02/03	--	0.937	--	--	--	--	1.2	--	0.781	--	--	--	--	(i)
7	#092	10/14/04	--	0.300	--	--	--	--	1.2	--	0.250	--	--	--	--	(k)
8	#106	11/17/04	--	0.020	--	--	--	--	1.5	--	0.013	--	--	--	--	(l)
9	#121	09/24/02	--	0.038	--	--	--	--	1.5	--	0.025	--	--	--	--	(m)
10	#107	09/12/07	--	0.009	--	--	--	--	1.5	--	0.006	--	--	--	--	(n)
11	#151	09/19/07	--	0.006	--	--	--	--	1.5	--	0.004	--	--	--	--	(o)
12	#156	01/23/08	--	0.009	--	--	--	--	1.5	--	0.006	--	--	--	--	(p)
13	#158	03/14/08	--	0.006	--	--	--	--	1.5	--	0.004	--	--	--	--	(q)
14	#158	03/14/08	--	0.038	--	--	--	--	1.5	--	0.025	--	--	--	--	(r)
15	#160	03/28/08	--	0.009	--	--	--	--	1.5	--	0.006	--	--	--	--	(s)
16	#163	10/02/08	--	0.038	--	--	--	--	1.5	--	0.025	--	--	--	--	(t)
17	#163	10/02/08	--	0.002	--	--	--	--	1.5	--	0.001	--	--	--	--	(u)
18	#163	10/02/08	--	0.015	--	--	--	--	1.5	--	0.010	--	--	--	--	(v)
19	#168	10/23/08	--	0.014	--	--	--	--	1.5	--	0.009	--	--	--	--	(w)
20	#187	01/26/09	--	0.051	--	--	--	--	1.5	--	0.034	--	--	--	--	(x)
21	#187	01/26/09	--	0.003	--	--	--	--	1.5	--	0.002	--	--	--	--	(y)
22	#194	02/06/09	--	0.146	--	--	--	--	1.5	--	0.097	--	--	--	--	(z)
23	#194	02/06/09	--	0.008	--	--	--	--	1.5	--	0.005	--	--	--	--	(aa)
24	#185	04/16/09	--	0.078	--	--	--	--	1.5	--	0.052	--	--	--	--	(ab)
25	#165	04/29/09	0.198	0.013	--	--	0.007	0.007	1.2	0.165	0.011	--	--	0.006	0.006	(ac)
26	#196	08/31/09	--	0.006	--	--	--	--	1.5	--	0.004	--	--	--	--	(ad)
27	#208	02/11/10	--	0.013	--	--	--	--	1.5	--	0.009	--	--	--	--	(ae)
28	#208	02/11/10	--	0.038	--	--	--	--	1.5	--	0.025	--	--	--	--	(af)
29	#221	04/14/10	--	0.005	--	--	--	--	1.5	--	0.003	--	--	--	--	(ag)
30	#224	07/13/10	--	0.005	--	--	--	--	1.5	--	0.003	--	--	--	--	(ah)
31	#224	07/13/10	--	0.005	--	--	--	--	1.5	--	0.003	--	--	--	--	(ai)
32	#232	08/27/10	--	0.012	--	--	--	--	1.5	--	0.008	--	--	--	--	(aj)
33	#232	08/27/10	--	0.000	--	--	--	--	1.5	--	0.000	--	--	--	--	(ak)
34	#234	11/18/10	--	0.465	--	--	--	--	1.5	--	0.310	--	--	--	--	(al)
35	#238	12/02/10	--	0.012	--	--	--	--	1.5	--	0.008	--	--	--	--	(am)
36	#250	07/20/11	--	0.020	--	--	--	--	1.5	--	0.013	--	--	--	--	(an)
37	#250	07/20/11	--	0.011	--	--	--	--	1.5	--	0.007	--	--	--	--	(ao)
38	#250	07/20/11	--	0.006	--	--	--	--	1.5	--	0.004	--	--	--	--	(ap)
39	#250	07/20/11	--	0.014	--	--	--	--	1.5	--	0.009	--	--	--	--	(aq)
40	#250	07/20/11	--	0.006	--	--	--	--	1.5	--	0.004	--	--	--	--	(ar)
41	#204	10/25/11	0.698	0.050	--	--	0.084	0.088	1.2	0.582	0.042	--	--	0.070	0.073	(as)
42	#245	10/25/11	0.764	--	--	--	--	--	1.5	0.509	--	--	--	--	--	(at)
43	#166	10/25/11	--	0.029	--	--	--	--	1.2	--	0.025	--	--	--	--	(au)
44	#253	03/01/12	--	0.005	--	--	--	--	1.5	--	0.003	--	--	--	--	(av)
45	#253	03/01/12	--	0.030	--	--	--	--	1.5	--	0.020	--	--	--	--	(aw)
46	#274	05/24/23	--	0.038	--	--	--	--	1.5	--	0.025	--	--	--	--	(ax)
47	#276	06/05/12	--	0.053	--	--	--	--	1.5	--	0.035	--	--	--	--	(ay)
48	#278	06/06/12	--	0.029	--	--	--	--	1.5	--	0.019	--	--	--	--	(az)
TOTALS =			11.165	4.580	0.000	0.058	0.795	0.804		9.177	3.608	0.000	0.048	0.663	0.670	

## Notes

- (a) This table track the ERCs dedicated to emission offset requirements at the VAFB source post 11/15/1990.
- (b) See specific permits for pre- 11/15/1990 ERC requirements.
- (c) VAFB ERCs created per DOI #001. Powerplant #2 shutdown and paving of the VAFB landfill road. This line item offsets VAFB specific liabilities only.
- (d) Boeing ERCs for use on EELV program. ERCs purchased from Greka Energy. Created per DOI #006. Emission controls on an oilfield gas compressor engine.
- (e) Boeing ERCs for use on EELV program. ERCs purchased from Grefco. Created per DOI #010. Emission reductions due to plant shutdown.
- (f) Boeing ERCs for use on EELV program. ERCs purchased from Nuevo (via Grefco). Created per DOI #010. Emission reductions due to plant shutdown.
- (g) VAFB ERCs for use on VAFB specific liabilities. ERCs purchased from Greka Energy. Created per DOI #006. Emission controls on an oilfield gas compressor engine.
- (h) This is the certificate associated with DOI 001, the most recently surrendered certificate.
- (i) Boeing ERCs for use on EELV program; solvent use at SLC-6. ERCs purchased from Grefco Lompoc Plant. Created per DOI #010 for facility shutdown.
- (j) ERCs re-credited to Boeing per June 2003 Stipulation Agreement: NOx = 0.896 tpq, ROC = 0.122 tpq, PM10 = 0.125 tpq, PM = 0.131 tpq
- (k) VAFB solvents from the HazMart Pharmacy used for new/modified sources. Created per DOI 006 for control of an oilfield engine.
- (l) SpaceX ERCs for ROC emissions from fuel loading and solvent use. Created per DOI 0033 for shutdown of a Hallador compressor.
- (m) Lockheed Martin ERCs for ROC emissions for solvent use. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (n) VAFB ERCs for ROC emissions for a new a DICE backup generator at Bldg 8401. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (o) VAFB ERCs for ROC emissions for a new DICE backup generator at Bldg 1965. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (p) VAFB ERCs for ROC emissions for a new DICE backup generator at RIDT#2. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (q) VAFB ERCs for ROC emissions for a new DICE backup generator at Bldg 6510. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (r) VAFB ERCs for ROC emissions for a new DICE backup generator w/ DPF at Bldg 2520. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (s) VAFB ERCs for ROC emissions for two new boilers at Bldg 836. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (t) VAFB ERCs for ROC emissions for a new backup generator at Bldg 830. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (u) VAFB ERCs for ROC emissions for a new fire water pump at Bldg 1919. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (v) VAFB ERCs for ROC emissions for a new backup generator at Bldg 929. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (w) VAFB ERCs for ROC emissions for two new boilers at Bldg 7000. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (x) VAFB ERCs for ROC emissions for the training engine at Bldg 7425. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (y) VAFB ERCs for ROC emissions for one new boiler at Bldg 1800. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (z) VAFB ERCs for ROC emissions for two new backup generators at Bldg 12006. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (aa) VAFB ERCs for ROC emissions for two new boilers at Bldg 12006. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ab) ULA - Atlas ERCs for ROC emissions due to an increase in solvent use. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ac) ULA - Delta ERCs for emissions due to a new 2,220 bhp backup generator. Created per DOI 0010 for shutdown of Grefco's Lompoc diatomaceous earth processing facility.
- (ad) VAFB ERCs for ROC emissions for a new DICE backup generator at Bldg 383. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ae) VAFB ERCs for ROC emissions for two new boilers in Bldg 8510. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (af) VAFB ERCs for ROC emissions for a new DICE BUG at Bldg 64. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ag) VAFB ERCs for ROC emissions for a new DICE BUG at Bldg 1594. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ah) VAFB ERCs for ROC emissions for a new DICE BUG at Bldg 13330. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ai) VAFB ERCs for ROC emissions for a new fuel loading at SLC-2. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (aj) VAFB ERCs for ROC emissions for five new DICE BUGs. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ak) VAFB ERCs for ROC emissions for a new DICE BUG at CT-3. Permit canceled, values zeroed out.
- (al) VAFB ERCs for ROC emissions for paint spray booth in Bldg 9327. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (am) VAFB ERCs for ROC emissions for portable hypergolic fuel scrubbers. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (an) VAFB ERCs for ROC emissions for a new DICE BUG at Bldg 1735. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ao) VAFB ERCs for ROC emissions for two boilers in Bldg 13330. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ap) VAFB ERCs for ROC emissions for two boilers in Bldg 12000. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (aq) VAFB ERCs for ROC emissions for two boilers in Bldg 7523. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ar) VAFB ERCs for ROC emissions for a new DICE BUG at Bldg 8195. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (as) ULA - Delta ERCs for emissions due increased boat operations. Created per DOI 0010 for shutdown of Grefco's Lompoc diatomaceous earth processing facility.
- (at) ULA - Delta ERCs for emissions due increased boat operations. Created per DOI 0071 for engine removal by Bolthouse Farms in Cuyama.
- (au) ULA - Delta ERCs for emissions due increased boat operations. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (av) VAFB ERCs for ROC emissions for a new DICE BUG at Bldg 8317. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (aw) VAFB ERCs for ROC emissions for a new DICE BUG at Bldg 6523. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ax) VAFB ERCs for ROC emissions for a new DICE BUG at CT-3. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (ay) VAFB ERCs for ROC emissions for four boilers in Bldg 1900. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.
- (az) VAFB ERCs for ROC for a new DICE BUG at Bldg 12000. Created per DOI 006 for control of an oilfield gas compressor engine by Greka Energy.

## 6.0 Air Quality Impact Analyses

### 6.1 Modeling

An air quality impact analysis has not been required for this stationary source.

### 6.2 Increments

An air quality increment analysis has not been required for this stationary source.

### 6.3 Monitoring

Air quality monitoring is not required for this stationary source.

### 6.4 Health Risk Assessment

The Vandenberg Air Force Base stationary source is subject to the Air Toxics “Hot-Spots” Program (AB 2588). The most recent health risk assessment (HRA) for the facility was prepared by the District in 2001 under the requirements of AB 2588. The HRA is based on 1998 toxic emissions inventory data submitted to the District by VAFB. Based on the 1998 toxic emissions inventory for VAFB, cancer and non-cancer toxics risks off the property were estimated to be below the District’s AB 2588 significance thresholds. The calculated risks are listed below:

<u>Threshold</u>	<u>VAFB Max Risks</u>	<u>Significance</u>
Cancer risk:	5.56 /million	≥10/million
Chronic non-cancer risk:	0.01	≥ 1
Acute non-cancer risk:	0.30	≥ 1

Vandenberg is in the process of completing an updated Air Toxics Emission Inventory Plan (ATEIP) and Air Toxics Emission Inventory Report (ATEIR) under the AB 2588 “Hot Spots” program. Once approved, an updated health risk assessment for the facility will be performed in accordance with AB 2588 risk procedures.

Individual health risk assessments were made for the following equipment installations:

Internal Combustion Engine (Device #112688): This engine is located 3,985 feet from the property boundary, and the closest receptor is a school 49,786 feet away. An air toxics screening was performed for ATC 13223 using the CARB Hot Spots Stationary Diesel Engine Screening Risk Assessment Tables. The tables show that a 550 bhp engine (which is larger than the permitted engine) operating at 75-load, 50 hours/year in an urban environment has a zero potential cancer cases in a million at this distance. As the engine is in a rural environment, it can be assumed that the engine does not pose an air toxics hazard, defined as 10 potential cancer cases in a million.

Internal Combustion Engine (Device #112818): This engine is located 31.4 meters, (104 feet) from the property boundary and the closest receptor is a school 25,034 feet away. An air toxics screening was performed using the CARB Hot Spots Stationary Diesel Engine Screening Risk Assessment Tables. The tables show that a 1,500 bhp engine operating at 75-load, 50 hours/year in a rural environment has a cancer risk potential of five cases in a million at a distance of 30 meters (98.4 feet). As the school and the property boundary are located at a distance further than 30 meters, and the engine is located in a rural environment, it can be



assumed that the engine does not pose an air toxics hazard, defined as ten potential cancer cases in a million.

Internal Combustion Engine (Device #11303): The engine listed in this permit is located 22,000 feet from the property boundary. An air toxics screening was performed using the Diesel IC Engine Screening Tool. The analysis shows that a 315 bhp engine operating at 100% load, 50 hours/year in a rural environment has a cancer risk potential of 0.03 cases in a million at a distance of 22,000 feet. As the permitted engine is located in a rural environment, it can be assumed that the engine does not pose an air toxics hazard, defined as ten potential cancer cases in a million. A copy of the Screening Risk Tool is provided in Attachment 10.7.

Internal Combustion Engine (Device #113916): A cancer Health Risk Assessment (HRA) screening was run for this project. The screening, which was based on 50 hours/year of maintenance and testing, showed a maximum cancer risk of 0.023 cases in a million. This is below the District's significant risk threshold of 10 in a million. This maximum cancer risk was calculated based on the following assumptions listed below. A copy of the Screening Risk Tool is provided in Attachment 10.7.

- Lompoc meteorological data is representative.
- Rural model type.
- Building downwash.
- 100% Load.
- 50 hrs/year of operation for maintenance and testing.

Internal Combustion Engine (Device #114377): This engine is located 12,993 feet from the property boundary, and the closest receptor is a bowling alley 3,970 feet away. An air toxics screening was performed using the CARB Hot Spots Stationary Diesel Engine Screening Risk Assessment Tables. These tables show that a 250 bhp engine operating at 100-load, 50 hours/year in a rural environment has 0.004 potential cancer cases in a million at this distance. A copy of the Screening Risk Tool is provided in Attachment 10.7.

- Lompoc meteorological data is representative
- Rural model type.
- Building downwash.
- 100% Load.
- 50 hrs/year of operation for maintenance and testing.

Internal Combustion Engine (Device #113917): A cancer Health Risk Assessment (HRA) screening was run for this project. The screening, which was based on 50 hours/year of maintenance and testing, showed a maximum cancer risk of 0.014 cases in a million. This is below the District's significant risk threshold of 10 in a million. This maximum cancer risk was calculated based on the assumptions listed below. A copy of the Screening Risk Tool is provided in Attachment 10.7.

- Lompoc meteorological data is representative.
- Rural model type.
- Building downwash.
- 100% Load.
- 50 hrs/year of operation for maintenance and testing.

Internal Combustion Engine (Device #114491): A cancer Health Risk Assessment (HRA) screening was run for this project. The screening, which was based on the engine operating 100 hours/year for maintenance and testing (M&T), showed a maximum cancer risk of 0.10

cases in a million. This is below the District's significant risk threshold of 10 in a million. This maximum cancer risk was calculated based on the assumptions listed below. A copy of the Screening Risk Tool is provided in Attachment 10.7.

- Lompoc meteorological data is representative.
- Rural model type.
- Building downwash.
- 100% Load.
- 50 hrs/year of operation for maintenance and testing.

Internal Combustion Engine (Device #114779): A cancer Health Risk Assessment (HRA) screening was run for this project. The screening, which was based on the engine operating 40 hours/year for maintenance and testing (M&T), showed a maximum cancer risk of 0.63 cases in a million. This is below the District's significant risk threshold of 10 in a million. The assumptions listed below. A copy of the Screening Risk Tool is provided in Attachment 10.7.

- Lompoc meteorological data is representative.
- Rural model type.
- Building downwash.
- 100% Load.
- One engine operating 40 hrs/year for maintenance and testing.

## **7.0 CAP Consistency, Offset Requirements and ERCs**

### **7.1 General**

Santa Barbara County is in attainment of the federal ozone standard but is in nonattainment of the state eight-hour ozone ambient air quality standard. In addition, the County is in nonattainment of the state PM<sub>10</sub> ambient air quality standards. The County is either in attainment or unclassified with respect to all other ambient air quality standards. Therefore, emissions from all emission units at the stationary source and its constituent facilities must be consistent with the provisions of the USEPA and State approved Clean Air Plans (CAP) and must not interfere with maintenance of the federal ambient air quality standards and progress towards attainment of the state ambient air quality standards. Under District regulations, any modifications at this facility or the VAFB Stationary Source that result in an emissions increase of any nonattainment pollutant exceeding 25 lbs/day must apply BACT (NAR). Additional increases may trigger offsets at the source or elsewhere so that there is a net air quality benefit for Santa Barbara County. These offset threshold levels are 55 lbs/day for all non-attainment pollutants except PM<sub>10</sub> for which the level is 80 lbs/day.

### **7.2 Clean Air Plan**

The 2007 Clean Air Plan, adopted by the District Board on August 16, 2007, addressed both federal and state requirements, serving as the maintenance plan for the federal eight-hour ozone standard and as the state triennial update required by the Health and Safety Code to demonstrate how the District will expedite attainment of the state eight-hour ozone standard. The plan was developed for Santa Barbara County as required by both the 1998 California Clean Air Act and the 1990 Federal Clean Air Act Amendments.

On January 20, 2011 the District Board adopted the 2010 Clean Air Plan. The 2010 Plan provides a three-year update to the 2007 Clean Air Plan. As Santa Barbara County has yet to attain the state eight-hour ozone standard, the 2010 Clean Air Plan demonstrates how the District plans to attain that standard. The 2010 Clean Air Plan therefore satisfies all state triennial planning requirements.

### *7.3 Emission Reduction Credits (ERCs)*

In 1984, VAFB and the District entered into an MOU for VAFB to bank emission reduction credits (ERCs) due to the shutdown of Power Plant #2 and for paving a portion of the VAFB landfill road. In the late 1980's ERCs were also provided for the South Vandenberg Power Plant (SVPP) from the shutdown of Power Plant #6. In 1991, VAFB and the District entered into a MOU that required all new projects to be offset. The requirement to offset all emissions under that MOU was removed in 1997 with the adoption of the updated New Source Review rule (i.e., Rule 806). VAFB was required to convert their banked ERCs into an ERC Certificate. That was done in September of 1997 (DOI #001 and ERC Certificate #001). A provision of Rule 806 allows VAFB to return used ERCs back to the Source Register (note: this provision only applies to ERCs subject to DOI #001).

### *7.4 Offset Requirements*

General: Emission offsets are required when a facility is permitting a project with emissions in excess of District offset thresholds, as defined in Regulation VIII. During initial project permitting the provisions of this Regulation did not apply because the source was previously exempt from the District permit provisions, and permits were required specifically due to a loss of a permit exemption. A summary of the VAFB stationary source's current and previous emission liabilities and ERCs are shown in Table O and Table E of the permit.

Post 1990 Offset Requirements: District rules require that the entire permitted quarterly NEI be offset. Table O details the stationary source offset liabilities and Table E details the emission reduction credits secured to meet the offset obligation. These tables also carry forward emission offset obligations created under the 1991 MOU. The ERC certificates used as offsets are available for review in the District's administrative files.

South Vandenberg Power Plant: When originally permitted, emissions NO<sub>x</sub>, non-methane hydrocarbons (NMHC), SO<sub>x</sub> and PM from the South Vandenberg Power Plant were offset with contemporaneous ERCs for this project only. These ERCs were generated by the shutdown of Power Plants 4 and 6, paving of the landfill road, and operation of Phase II vapor recovery systems at the North Base Motor Vehicle Fuel Facility. A later emission increase permitted by ATC/PTO Mod 6117-07 was also offset.

## **8.0 Lead Agency Permit Consistency**

To the best of the District's knowledge, no other governmental agency's permit requires air quality mitigation.

## 9.0 Permit Conditions

This section lists the applicable permit conditions for the VAFB facility. Section 9 contains the permit's enforceable requirements.

### 9.A Standard Administrative Conditions

- A.1 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file) and the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.
- A.2 **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site.
- A.3 **Compliance.** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments.
- A.4. **Conflict Between Permits.** The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein.
- A5. **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the District or its agents, the permittee shall make such records available or provide access to such facilities upon notice from the District. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.
- A6. **Indemnity and Separation Clauses.** The permittee shall defend, indemnify and hold harmless the District or its agents, officers and employees from any claim, action or proceeding against the District or its agents, officers or employees, to attack, set aside, void, or annul, in whole or in part, the approval granted herein. In the event that the District fails promptly to notify the permittee of any such claim, action or proceeding, or that the District fails to cooperate fully in the defense of said claim, this condition shall thereafter be of no force or effect. In the event that any condition contained herein is determined to be invalid, then all remaining conditions shall remain in force.
- A7. **Emission Factor Revisions.** The District may update the emission factors for any calculation based on USEPA AP-42 or District emission factors at the next permit modification or permit reevaluation to account for USEPA and/or District revisions to the underlying emission factors.
- A8. **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq.*
- A.9 **Compliance with Permit Conditions.**
- (a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.
  - (b) This permit does not convey property rights or exclusive privilege of any sort.

- (c) Any permit noncompliance with sections 9.A, 9.B, or 9.C constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
- (d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
- (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
  - (i) compliance with the permit, or
  - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.
- (g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

[Re: 40 CFR Part 70.6.(a)(6), District Rules 1303.D.1]

A.10 **Emergency Provisions.** The permittee shall comply with the requirements of the District, Rule 505 (Upset/Breakdown rule), and/or District Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the District, in writing, a “notice of emergency” within 2 working days of the emergency. The “notice of emergency” shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [Re: 40 CFR 70.6(g), District Rule 1303.F ]

A.11 **Compliance Plan.**

- (a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term in a timely manner.
- (b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards.

[Re: District Rule 1302.D.2]

A.12 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
  - (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
  - (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times.
- Monitoring of emissions can include source testing.

[Re: District Rule 1303.D.2]

A.13 **Permit Life.** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the District rules.

The permittee shall submit an application for renewal of the Part 70 permit not later than 6 months before the date of the permit expiration. Upon submittal of a timely and complete

renewal application, the Part 70 permit shall remain in effect until the Control Officer issues or denies the renewal application. [Re: District Rule 1304.D.1]

- A.14 **Payment of Fees.** The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6(a)(7)]
- A.15 **Deviation from Permit Requirements.** The permittee shall submit a written report to the District documenting each and every deviation from the federally enforceable requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180 days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [District Rule 1303.D.1, 40 CFR 70.6(a) (3)]
- A.16 **Reporting Requirements/Compliance Certification.** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on District forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the “Semi-Annual Compliance Verification Report” condition in section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c]
- A.17 **Federally-enforceable Conditions.** Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally enforceable or subject to the public/USEPA review [Re: CAAA, § 502(b)(6), 40 CFR 70.6(b)]
- A.18 **Recordkeeping Requirements.** The permittee shall maintain records of required monitoring information that include the following:
- (a) The date, place as defined in the permit, and time of sampling or measurements;
  - (b) The date(s) analyses were performed;
  - (c) The company or entity that performed the analyses;
  - (d) The analytical techniques or methods used;
  - (e) The results of such analyses; and
  - (f) The operating conditions as existing at the time of sampling or measurement;

The records, as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request.

[Re: District Rule 1303.D.1.f, 40 CFR 70.6(a)(3)(ii)(A)]

A.19 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30 day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.
- (b) Inaccurate Permit Provisions: If the District or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.
- (c) Applicable Requirement: If the District or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Administrative procedures to reopen a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which causes to reopen exist. If the permit is reopened, and revised, it will be reissued with the expiration date that was listed in the permit before the re-opening. [Re: 40 CFR 70.7(f), 40 CFR 70.6(a)]

## 9.B Generic Conditions

- B.1 **Equipment Identification.** Identifying tag(s) or name plate(s) shall be displayed on the equipment to show manufacturer, model number, and serial number. The tag(s) or plate(s) shall be issued by the manufacturer or WBF and shall be affixed to the equipment in a permanent and conspicuous position.
- B.2 **Nuisance (Rule 303).** Except as otherwise provided in Section 41705 of the California H&SC, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- B.3 **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site.
- B.4 **Circumvention (Rule 301).** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303. [*Re: District Rule 301*]
- B.5 **Visible Emissions (Rule 302):** The permittee shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:
- (a) As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or
  - (b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above.
- For all combustion sources listed in Section 9.C , Venoco shall be in compliance with the requirements of this Rule in accordance with the monitoring and compliance recordkeeping procedures in Condition 9.C.23. [*Re: District Rule 302*]
- B.6 **Organic Solvents (Rule 317).** The Permittee shall comply with the emission standards listed in Section B of Rule 317. Compliance with this condition shall be based on The Permittee's compliance with Condition C.7 (*Solvent Usage*) of this permit. [*Re: APCD Rule 317*]
- B.7 **Solvent Cleaning Operations (Rule 321).** The Permittee shall comply with the operating requirement, equipment requirements and emission control requirements for all solvent cleaners subject to this Rule. Compliance shall be based on APCD inspection of the existing cold solvent cleaner and a thorough ATC application review for future solvent cleaners (if any). [*Re: APCD Rule 321*]
- B.8 **Metal Surface Coating Thinner and Reducer (Rule 322).** The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. Compliance



with this condition shall be based on The Permittee's compliance with Condition C.7 (*Solvent Usage*) of this permit, and facility inspections. [Re: APCD Rule 322]

- B.9 **Architectural Coatings (Rule 323).** The Permittee shall comply with the emission standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323. Compliance with this condition shall be based on The Permittee's compliance with Condition C.7 (*Solvent Usage*) of this permit and facility inspections. [Re: APCD Rule 323]
- B.10 **Disposal and Evaporation of Solvents (Rule 324).** The Permittee shall not dispose through atmospheric evaporation more than one and a half gallons of any photochemically reactive solvent per day. Compliance with this condition shall be based on The Permittee's compliance with Condition C.7 (*Solvent Usage*) of this permit, and facility inspections. [Re: APCD Rule 324]
- B.11 **Adhesives and Sealants (Rule 353).** The permittee shall not use adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers, unless the permittee complies with the following:
- (a) Such materials used are purchased or supplied by the manufacturer or suppliers in containers of 16 fluid ounces or less; or alternately
  - (b) When the permittee uses such materials from containers larger than 16 fluid ounces and the materials are not exempt by Rule 353, Section B.1, the total reactive organic compound emissions from the use of such material shall not exceed 200 pounds per year unless the substances used and the operational methods comply with Sections D, E, F, G, and H of Rule 353. Compliance shall be demonstrated by recordkeeping in accordance with Section B.2 and/or Section O of Rule 353. [Re: APCD Rule 353]

## 9.C Requirements and Equipment Specific Conditions

C.1 **Turbine Generators and Pony Engines.** The equipment listed in Attachment 10.2 are included in this emissions unit category. The following conditions shall apply:

- (a) **Emission Limits.** The hourly and daily mass emissions from each turbine shall not exceed the values listed in Tables 5.1-3 except for specified periods during any of the turbine start-up, shutdown, fuel switching or bus transient events defined in a, b, c and d below. The sum of the quarterly and annual mass emissions from each turbine shall not exceed the totals listed in Tables 5.1-4 except for specified periods during any of the turbine start-up, shutdown, fuel switching or bus transient events defined in a, b, c and d below. The ton/qtr and ton/yr emissions calculated for each individual turbines are not emission limits. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit. The following limits shall also apply:

- (i) Individual turbine emissions shall not exceed the emission limits listed below when fired on the fuels listed in the table:

Pollutant	Exhaust Concentration Limit Operation on Natural Gas	Exhaust Concentration Limit Operation on Diesel
NO <sub>x</sub>	22	32
NMHC	17	23
CO	No ppmvd limit applicable	No ppmvd limit applicable
PM	No ppmvd limit applicable	No ppmvd limit applicable
SO <sub>2</sub>	No ppmvd limit applicable	42

Notes:

1. All above concentration limits by volume, dry, corrected to 15% O<sub>2</sub>, regardless of turbine load.
  2. Emission limitations for PM are based on emission factors from the Environmental Protection Agency's AP-42, Fifth Edition (April 2000).
  3. Turbine emission limitations for SO<sub>2</sub> are based on mass balance using fuel sulfur data obtained in accordance with the FUMP.
  4. Turbine emission limitations for NO<sub>x</sub> and CO will be verified through CEMS data and source testing.
  5. Turbine emission limitations for NMHC are based on annual source test results at a representative operating condition.
- (ii) **Transient Events.** The following transient, events as defined in items a, b, c, and d below, may cause emissions limitations to be exceeded:
- (1) **Start-Up Transients.** During turbine start-up, water injection does not occur at the rates required by Condition C.1(b)(vi) (*Turbine Water Injection Requirements*) until the turbine has warmed up and the turbine load is increased above 750 kW.
  - (2) **Shutdown Transients.** Turbine shutdown sequence directs termination of water injection prior to turbine shutdown to allow the turbine to dry out.

- (3) *Fuel Switching Transients.* Turbine fuel switching comprises the transition from fuel oil to natural gas firing or from natural gas firing to fuel oil firing.
- (4) *Bus Transients.* Bus transients include bus switching and bus load changes. Bus switching occurs when power is redirected from one bus to another. During bus switching the turbine is kept operating, the power plant is disconnected from commercial power, and no power is available to operate the water injection system. Bus load changes result in a rapid change in turbine load with a delayed change in water injection. However, keeping the turbine operating during bus transients eliminates the need to shut down and start up the turbine(s), and thus minimizes the emissions associated with those transient events.

Emission exceedances produced during any of the above-defined activities that last no longer than thirty (30) minutes per each transient event, shall not constitute a violation. A transient event shall be deemed to have ended when all applicable emission limitations (i.e., NO<sub>x</sub> and CO) remain in compliance based on six consecutive one-minute CEMS compliant parameter data points. Each transient event shall be recorded in an operator log and one minute CEMS data. The resulting emissions from such events shall be properly offset as required by the *Offsets* condition of this permit.

- (b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:
- (i) *Turbine (Natural Gas) Hours of Operation:* The combined hours of operation of the turbines on natural gas shall not exceed a total of 2,908 turbine hours per calendar quarter, or, alternatively, all turbine operations may consume no more than 148.36 MMscf/quarter of 1,050 Btu/scf (high heating value = HHV) natural gas if no fuel oil is used. Within any quarter, if fuel oil operations occur, the maximum natural gas consumption for the quarter is calculated according to the following equation:

$$\text{Maximum NG Consumption (MMscf/qtr)} = 123.79 \text{ MMscf/qtr} + [(24.57 \text{ MMscf/qtr}) * (1.0 - \text{"FO"} / 55,511 \text{ gallons fuel oil})]$$

where: "FO" equals the actual gallons of fuel oil consumed during the subject quarter, not to exceed 55,511 gallons.

- (ii) *Turbine (Fuel Oil) Hours of Operation:* If natural gas fired operations of the turbines do not exceed 123.79 MMscf/quarter, then operation of the turbines on fuel oil shall not exceed a total of 180 turbine hours per calendar quarter, or 55,511 gallons of fuel oil. No more than four (4) turbines shall operate simultaneously on fuel oil combustion. During a calendar quarter, if natural gas fired turbine operations exceed 123.79 MMscf for the quarter, then the following fuel oil operations limit applies:

$$\text{Fuel Oil Limit (gallons for the quarter)} = (55,511 \text{ gallons fuel oil}) * [1.0 - \text{"FG"} / 24.57 \text{ MMscf natural gas}]$$

where: "FG" represents the actual natural gas fuel usage in excess of 123.79 MMscf for the applicable quarter (i.e.,  $FG = \text{Actual total natural gas consumption (MMscf/qr)} - 123.79$ ).

- (iii) *Natural Gas Sulfur Limit:* The turbines when fired on natural gas fuel shall use fuel gas that meets Public Utilities Commission (PUC) quality standards. This natural gas fuel shall not exceed a sulfur content of 24 ppmv (as total sulfur). Compliance with this condition shall be demonstrated annually by compliance with the April 12, 2010, or most current, District-approved Fuel Use Monitoring Plan (FUMP).
- (iv) *Turbine Diesel Fuel Sulfur Limit:* The sulfur content of the diesel #2 fuel oil shall not exceed 0.20 percent on a weight basis. Compliance with this condition shall be demonstrated annually through the April 12, 2010 FUMP revision, or the most current, District-approved FUMP.
- (v) *Pony Starter Engine Diesel Fuel Sulfur Limit:* The sulfur content of the diesel #2 fuel oil shall not exceed 0.0015 percent on a weight basis. Compliance with this condition shall be demonstrated annually through the April 12, 2010 FUMP revision, or the most current District-approved FUMP.
- (vi) *Turbine Water Injection Requirements:* Except for loads below 750 kW, and during brief periods not to exceed thirty (30) minutes for startup transients, shutdown transients, fuel switching transients, or bus transients as defined above, water injection shall be used at all times when the system is operational. The water-fuel mass ratio shall be maintained at a minimum of 1:1 + 10% when the system is fired on diesel fuel oil #2, and at a minimum of 0.8:1 + 10% when fired on natural gas. During the annual source tests, if the water-fuel mass ratio at which compliance is demonstrated is greater than the applicable minimum specified mass ratio above, the water-fuel mass ratio set point of the source test shall become the minimum allowed ratio until the next scheduled source test is performed.
- (vii) *Carbon Monoxide (CO) and Non-Methane Hydrocarbon (NMHC) Oxidation Catalyst Replacement:* To prevent a long period of excess CO and NMHC emissions associated with partial or complete failure of a catalyst bed, VAFB shall remove from service any turbine served by a failed catalyst bed until the catalyst is replaced by a new or reconditioned unit. During the replacement period, VAFB may operate any of the other turbines served by a properly maintained and functioning catalyst bed, or use utility-generated electricity (i.e. grid power).
- (viii) *Catalyst System Replacements:* Future exhaust catalyst replacements are subject to written District approval prior to its replacement. District approval of such catalyst replacement shall be subject to a demonstration by VAFB that the replacement catalyst meets the equivalent engineering, performance, and emission reduction requirements of the catalysts specified herein. The District may require exhaust emissions source tests of the replacement catalyst, as stipulated by the Source Test condition of this permit, to validate performance requirements are met. Any VAFB request for catalyst change out shall be submitted no later than thirty (30) calendar days prior to the desired change out

date

- (ix) *Pony Starter Engines Operating Hours*: Each internal combustion turbine pony starter engine shall operate no more than 20 hours per calendar year.
- (x) *Pony Starter Engine Maintenance*: The engines must be operated and maintained according to the manufacturer's written instructions, or VAFB shall develop its own maintenance plan to minimize emissions. The operator shall analyze the oil of each engine every 500 hours of operation or annually, whichever occurs first. The analysis shall measure the Total Base Number, the oil viscosity, and the percent water content. The oil and filter shall be changed if any of the following limits are exceeded:
  - (1) The tested Total Base Number is less than 30 percent of the Total Base Number of the oil when new.
  - (2) The tested oil viscosity has changed by more than 20 percent from the oil viscosity when new.
  - (3) The tested percent water content (by volume) is greater than 0.5 percent.
- (c) Monitoring. The permitted equipment is subject to the following monitoring requirements:
  - (i) Each pony starter engine shall be equipped with a non-resettable hour meter. The operating hours of each ICE shall be recorded the first working day of each calendar quarter.
  - (ii) The operator shall inspect each pony starter engine air filter every 1,000 hours of operation or annually, whichever occurs first, and replace the air filter if necessary.
  - (iii) The operator shall inspect each pony starter engine's hoses and belts every 500 hours of operation or annually, whichever occurs first, and replace the belts and hoses if necessary.
  - (iv) Each turbine shall be equipped with a non-resettable hour meter. The operating hours of each turbine shall be recorded the first working day of each calendar quarter. The log shall break down the number of hours each turbine operated on gas and operated on diesel.
  - (v) The volume of natural gas (scf) burned at the SVPP shall be measured through the use of a calibrated pressure and temperature corrected meter or through the use of a District-approved alternate method. The meter shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request.
  - (vi) The volume of diesel consumption (gallons) per month and per calendar quarter shall be monitored through a level gauge and a log of the volume of diesel added to the tank. If the turbines convert to routine operation on diesel, VAFB shall install a calibrated District-approved diesel fuel meter within 90-days after conversion to operation on diesel.

- (vii) The total number of turbines operating simultaneously on diesel fuel oil #2 shall be monitored and logged.
  - (viii) VAFB shall determine the total sulfur content for the natural gas consumed at the SVPP on an annual basis. If this data is not available from the gas utility company, VAFB shall measure the total sulfur content of the gaseous fuel in accordance with ASTM-D1072 or a District approved equivalent method.
  - (ix) The sulfur content (percent by weight), and the HHV of the diesel fuel oil #2 for both the turbines and pony starter engines shall be monitored in accordance with Section 2.2.1 of the FUMP.
- (d) Recordkeeping. The following records shall be maintained:
- (i) The quarterly and annual operating hours of each of the pony starter engines.
  - (ii) Each pony starter engine shall be equipped with a non-resettable hour meter. The operating hours of each ICE shall be recorded the first working day of each calendar quarter.
  - (iii) The date of each pony starter engine oil change, the number of hours of operation since the last oil change, and the date and results of each oil analysis.
  - (iv) The date of each pony starter engine air filter inspection and the number of hours of operation since the last air filter inspection. Indicate if the air filter was replaced as a result of the inspection.
  - (v) The date of each pony starter engine's hose and belts inspection and the number of hours of operation since the last hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection.
  - (vi) The total hours of turbine operations on natural gas per calendar quarter.
  - (vii) The total hours of turbine operations on diesel per calendar quarter.
  - (viii) The total natural gas consumption in MMscf of natural gas per calendar quarter. If the calendar quarter operating hours exceed a total of 2,908 turbine-hours, records shall include monthly fuel use in scf and monthly higher heating value of fuel in Btu/scf as stated on the fuel bill.
  - (ix) The total number of turbines operating simultaneously on diesel fuel oil #2 shall be logged.
  - (x) The sulfur content (percent by weight), and the HHV of the diesel fuel oil for both the turbines and pony starter engines.
  - (xi) The water-fuel ratio as determined from the most recent source test report.

- (xii) Records per Rule 333.B.2 for the operation of each of the five internal combustion pony starter engines.
- (xiii) Additional recordkeeping as required by the Fugitive Inspection & Maintenance (I&M) Program condition of this permit.
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit.
- (f) Source Testing. The permittee shall conduct source testing of air emissions and process parameters listed in Table 4.5.1 of this permit. More frequent source testing may be required if a catalyst change occurs, if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. Source testing shall be performed on an annual schedule using September as the anniversary date. Fuel oil-fired source testing shall be required for any turbine that uses fuel oil for more than 200 hours in the 12 months prior to the source test anniversary date. In addition, the source test provisions of permit condition C.22 shall apply
- (g) Exhaust Catalyst System Replacements. Future exhaust catalyst replacements are subject to written District approval prior to its replacement. District approval of such catalyst replacement shall be subject to a demonstration by VAFB that the replacement catalyst meets the equivalent engineering, performance, and emission reduction requirements of the catalysts specified herein. The District may require exhaust emissions source tests of the replacement catalyst, as stipulated by the Source Test condition of this permit, to validate performance requirements are met. Any VAFB request for catalyst change out shall be submitted no later than thirty (30) calendar days prior to the desired change out date.
- (h) Offsets. The permittee shall comply with the offset requirements of Regulation VIII by maintaining the Emission Reduction Credits identified in Table O and Table E. In addition, the following conditions shall apply to the SVPP:
  - (i) Power Plant #4 and Power Plant #6 shall not be operated.
  - (ii) VAFB shall maintain the 0.7 mile landfill asphalt road in a condition such that the surface is free of substantial defects (e.g., repairing of pot-holes, surface breakage). The road shall be maintained at all times to ensure that particulate emissions are minimized due to dirt accumulation on the road surface by the use of a water truck or street sweeper.
  - (iii) Phase II vapor recovery systems for the North Base Motor Vehicle Fuel Facility (MVFF) must be maintained.
  - (iv) VAFB shall maintain offsets for the net emission increase resulting from operation of the SVPP as detailed in Tables 15-1 and 15-2 of this permit.

**Table 15-1**  
**Pre-1990 SVPP Emissions and ERCs**  
**Tons/Quarter**

	NOx	ROC	SOx	PM
Turbine Emissions	6.756	1.231	0.776	0.978
Fugitive Emissions	0.000	0.336	0.000	0.000
Total Emissions	6.756	1.567	0.776	0.978
ERCs Required (1.2 to 1 Ratio)	8.107	1.880	0.931	1.174
ERCs from Power Plants #4 & #6	15.397	0.401	2.310	1.032
ERCs From No. & So. Base MVFFs	0.000	1.339	0.000	0.000
Total ERCs	15.397	1.739	2.310	1.032
ERC Deficit	0.000	0.141	0.000	0.142
ERCs From Certificate 001, 06/31/97	0.000	0.141	0.000	0.167

**Table 15-2**  
**Post-1990 SVPP Emission Increases and ERCs**  
**Tons/Quarter**

	NOx	ROC	SOx	PM
Emission Increase from ATC/PTO 6117-07	0.000	0.090	0.250	0.000
ERCs Required (1.2 to 1 Ratio)	0.000	0.108	0.300	0.000
ERCs Provided by ERC Certificate #56	0.000	0.108	0.000	0.000

- (i) Engine Identification. Each pony starter ICE shall be identified with a permanently affixed plate, tag or marking, referencing the ICE's make, model, serial number, rated Bhp and corresponding RPM. The tag shall be made accessible and legible to facilitate District inspection of the ICEs.
- (j) Advance Notification - Fuel Oil Operations. VAFB shall provide reasonable advance written notification of any scheduled fuel oil operations. However, if the reason for fuel oil operation is beyond the reasonable control of VAFB, written notification shall be provided within four (4) hours of the start of the following business day. Such notification shall include the reason(s) for the fuel oil use and the duration of fuel oil operations. Written notification may be by facsimile (FAX) machine or an acceptable equivalent method.
- (k) Fugitive Inspection & Maintenance (I&M) Program. VAFB shall conduct a fugitive hydrocarbon inspection and maintenance (I&M) program for the SVPP. The I&M program shall be maintained in accordance with the I&M Plan approved by the District (October 23, 2002 and subsequent updates incorporated herein as reference). Pursuant to the I&M Plan, recordkeeping and reporting requirements shall be maintained by the permittee and reports shall be made available to the District annually or upon request.



C.2 **External Combustion Equipment.** The external combustion equipment listed in Attachment 10.2 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits: The following emission limits shall apply. Compliance shall be based on the operational, monitoring, recordkeeping, and reporting conditions of this permit:
  - (i) *Mass Emission Limits.* Mass emissions from the external combustion units subject to this permit shall not exceed the limits listed in Table 5.1-3 and Table 5.1-4.
  - (ii) *Emission Standards.* Each external combustion unit shall not exceed the exhaust concentration limits specified in Attachment 10.2.
- (b) Operational Requirements: The equipment permitted herein is subject to the operational requirements listed in Attachment 10.2. The following additional requirements apply:
  - (i) *Heat Input Limits.* The hourly, daily and annual heat input limits to each unit shall not exceed the values listed in Table 5.1-1. These limits are based on the design rating of the unit and the annual heat input value as listed in the permit application. The fuel heat content listed in Table 5.1-1 shall be used for determining compliance.
  - (ii) *Public Utility Natural Gas Fuel Sulfur Limit.* The total sulfur and hydrogen sulfide (H<sub>2</sub>S) content (calculated as H<sub>2</sub>S at standard conditions, 60°F and 14.7 psia) of the public utility natural gas fuel shall not exceed 80 ppmv and 4 ppmv respectively. Compliance with this condition shall be based on billing records or other data showing that the fuel gas is obtained from a public utility gas company.
  - (iii) *Propane Fuel Sulfur Limit.* The total sulfur content (calculated as total sulfur at standard conditions, 60° F and 14.7 psia) of the propane fuel gas shall not exceed 239 ppmv. Compliance with this condition shall be based on lab analysis records (a minimum of one analysis per year is required) showing that the propane fuel meet GPA standards for commercial/HD-5 grade propane.
  - (iv) *Rule 342 Low Use Exemption.* Units that have obtained District approval of the low use exemption under Section D.2 of Rule 342 that exceed the 9.000 billion Btu/year heat input limit shall be in violation of Rule 342. The permittee may seek variance relief pursuant to the provisions of District Regulation V.
  - (v) *Rule 360 Compliance.* Any boiler or hot water heater rated at or less than 2.000 MMBtu/hr and manufactured after October 17, 2003 shall be certified per the provisions of Rule 360. An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr.
  - (vi) *Rule 361 Compliance - Existing Units.* The owner or operator of any unit requesting the low use exemption in Section D.2 shall comply with the requirement to submit a Rule 361 Compliance Plan for District review and approval prior to March 15, 2016. Fuel meters installed pursuant to the approved

Rule 361 Compliance Plan shall be installed prior to December 31, 2016. On or before January 30, 2019, the owner or operator of any existing unit shall:

1. For units subject to Section D.1 emission standards, apply for an Authority to Construct permit.
2. For units subject to the Section D.2 low use provision, provide the annual fuel heat input data for years 2017 and 2018.

Any existing unit that is replaced or modified is subject to requirements of Rule 361 and shall first obtain a District ATC permit prior to installation or modification.

(c) Monitoring: The equipment permitted herein is subject to the following monitoring requirements:

(i) *Fuel Usage Metering*. The volume of fuel gas used in these units shall be determined by one of the methods listed below. Attachment 10.2 identifies which method is approved for each unit. Except for changing to the Default Rating Method, written District approval is required to change to an alternate method.

1. Fuel Use Meter. The volume of fuel gas (scf) used shall be measured through the use of a dedicated District-approved fuel meter. The meter shall be temperature and pressure corrected. The fuel meter shall be accurate to within five percent (5%) of the full scale reading. The meter shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request.
2. Hour Meter. The volume of fuel gas (scf) used in the units shall be determined through the use of a dedicated District-approved hour meter or District-approved electronic management system that is capable of tracking and logging the unit's time on/off. Fuel usage shall be calculated based on the actual hours of operation (hours/year) times the heat input rating of the unit (Btu/hr) divided by the District-approved heating value of the fuel (Btu/scf).
3. Default Rating Method. The volume of fuel gas (scf) used shall be reported as the permitted annual heat input limit for the unit (Btu/year) divided by the District-approved heating value of the fuel (Btu/scf).

(ii) *Compliance Determinations*. The following compliance determinations shall apply:

1. New/Modified Units Rated Between 2.0 - 5.0 MMBtu/hr – Fired on Utility Natural Gas. Any owner or operator of any unit fired exclusively on utility natural gas shall be tuned-up pursuant to the requirements of Section I of Rule 361. The District may, at its discretion, require any owner or operator of any unit subject to this rule to perform a source test per the test methods listed in Section J. An owner or operator may choose to comply with this section by performing District-approved source testing in lieu of tune-ups. Such source testing shall comply with the requirements of Section J.

2. Units Rated at 2.000 MMBtu/hr or Below. Units in this heat input range shall be tuned-up following the manufacturer's recommended tuning procedure or an alternative tuning procedure approved by the District. Attachment 10.2 defines the required tuning frequency.
3. Source Testing Units Rated greater than 2.000 MMBtu/hr. Source testing shall be performed at the frequency specified in Attachment 10.2 of air emissions and process parameters listed in Table 4.5.2 of this permit. The month of the first source test shall be the source test anniversary date. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. In addition, the source test provisions of permit condition C.22 shall apply.
4. Tuning Units Rated Between 2.000 and 5.000 MMBtu/hr. Notwithstanding the compliance determinations listed below, the District may, at its discretion, require the permittee to perform a source test to demonstrate compliance:
  - a. The permittee shall perform tuning at the frequency specified in Attachment 10.2. Tuning must follow the *Tune-Up Procedures* specified in the most current version of District Rule 361, including as-found and post-adjustment CO and NO<sub>x</sub> measurements, portable analyzer calibration, recordkeeping and reporting.
  - b. In lieu of tuning, the permittee may perform District-approved source testing. Such source testing shall be consistent with the condition District's C.2(c)(2)3 above. A written source test plan shall be submitted to the District for review and approval at least 30 calendar days prior to testing.
5. Tuning Units Rated 5.000 MMBtu/hr and Greater. The permittee shall tune units granted the low use exemption following the tuning procedure in Attachment 1 of Rule 342 or an alternative tuning procedure approved by the District. Attachment 10.2 identifies the required tuning frequency.
6. Non-Operational Test Firing. No tune-up is required during a calendar year for any unit that is not operated during that calendar year. The unit may be test fired to verify availability for its intended use but once test firing is completed it shall be shut down. If test firing exceeds 24 hours per year, then tune-ups shall be conducted as specified in Attachment 10.2.
7. Existing Units Rated Between 2.0 - 5.0 MMBtu/hr. Existing units (i.e., units installed prior to January 17, 2008) are not subject to tuning or source testing requirements

(d) Recordkeeping: The following records shall be maintained:

- (i) Fuel Use - Units Rated Under 5.0 MMBtu/hr. The volume of fuel gas used each year (scf) as determined by the fuel use monitoring option listed in

Attachment 10.2. Units that track fuel use using the Default Rating Method are not required to record the fuel usage. Units subject to the Rule 361.D.2 low use exemption shall record fuel use on a monthly and annual basis for each fuel type.

- (ii) *Tuning Records.* For units subject to Rule 361 tuning requirements, copies of all *Rule 361 Tune-Up Reports* as specified in Step 12 of Procedure A and/or Step 6 of Procedure B of the tuning Attachment to Rule 361. For units subject to the Rule 342 or Rule 360, maintain documentation verifying the required tune-ups, including a complete copy of each tune-up report.
- (iii) *Non-Operational Test Firing.* A log that documents the date and number of hours that the unit was test fired in accordance with Rule 361.I.3.
- (iv) *Source Test Reports.* Source test reports for all District-required source tests.
- (v) *Fuel Use Meter Calibration Records.* Calibration records of District-approved fuel use meters.
- (vi) *Maintenance Logs.* Maintenance logs for the boilers, emission control systems and fuel flow meters (as applicable).
- (vii) *Propane Fuel Sulfur Content.* At least one lab analysis per calendar year showing that the total sulfur content of the fuel gas purchased meets GPA standards for commercial/HD-5 grade propane.
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit.
- (f) Emergency Unit Modification: The following units can be modified without first obtaining an Authority to Construct Permit only if the requirements listed below are satisfied: Device 111723, 111724, 111712, 111758):
  - (i) The unit supports a critical facility and national assets.
  - (ii) The unit must be repaired to prevent damage to a critical facility or national asset.
  - (iii) The existing units must meet the emission limits established in Rule 361.
  - (iv) The fuel usage for the existing units must be monitored using District approved, pressure and temperature correcting fuel meters.
  - (v) The facility provides "good cause" (in writing) for the immediate need to repair the unit prior to the time period before an ATC permit can be obtained for the repair of the existing unit or replacement with a new unit. The repaired unit must comply with the requirements of the Rule 361 for new units. If an existing unit cannot be immediately repaired, a temporary unit may be used while the replacement parts are being procured. During this time period, the

temporary replacement unit must meet the same guidelines and procedures as defined in the permit condition.

- (vi) An Authority to Construct application for the modified unit is submitted to the District within 15 days of the existing unit being repaired and the District permit for the repaired unit is obtained no later than 180 days from the date of unit repair (these timelines include the use of a temporary unit.
  - (vii) For each permitted unit to be modified pursuant to this condition, the permittee shall notify the District in writing within 14 days of the modification. (Attn: VAFB Project Manager).
- (g) Temporary Unit Replacement: Permitted units may be replaced temporarily only if the requirements listed below are satisfied.
- (i) The permitted unit is in need of routine repair or maintenance.
  - (ii) The permitted unit that is undergoing routine repair or maintenance is returned to its original service within 180 days of installation of the temporary unit.
  - (iii) The existing units must meet the emission limits established in Rule 361.
  - (iv) The fuel usage for the existing units must be monitored using District approved, pressure and temperature correcting fuel meters.
  - (v) The temporary replacement unit has the same or lower manufacturer MMBtu rating and same or lower potential to emit of each pollutant as the permitted unit that is being temporarily replaced. At the written request of the permittee, the District may approve a replacement unit with a larger rated MMBtu rating than the permitted unit if the proposed temporary unit has manufacturer guaranteed emissions (for a brand new unit) or source test data (for a previously used unit) less than or equal to the permitted unit.
  - (vi) The temporary replacement unit shall comply with all rules and permit requirements that apply to the permitted unit that is undergoing routine repair or maintenance.
  - (vii) For each permitted unit to be temporarily replaced, the permittee shall notify the District within 14-days of the temporary unit being installed. (Attn: VAFB Project Manager).

Any unit in temporary replacement service shall be immediately shut down if the District determines that the requirements of this condition have not been met.

- (h) Emergency External Combustion Unit Replacements. Permitted units may be replaced due to emergency conditions prior to obtaining a final ATC only if all the requirements listed below are satisfied:
- (i) The unit breaks down and must be replaced by a new unit;

- (ii) Any boiler, water heater, process heater or steam generator rated greater than or equal to 75,000 Btu/hr up and less than or equal to 2.000 MMBtu/hr shall be certified per the provisions of Rule 360.
- (iii) Any boiler, water heater, process heater or steam generator rated greater than 2.000 MMBtu/hr and less than 5.000 MMBtu/hr shall be guaranteed by the manufacturer to meet the emission limits of Rule 361.
- (iv) Any boiler, water heater, process heater or steam generator rated greater than or equal to 5.000 MMBtu/hr shall be guaranteed by the manufacturer to meet the emission limits of Rule 342.
- (v) Notwithstanding items (ii) - (iv) above, if the existing unit being replaced is subject to an emissions standard that is more stringent than the applicable Prohibitory rule, then the new replacement unit must also meet the more stringent standard. In such cases, the permittee shall provide manufacturer documentation that guarantees the new replacement unit meets the more stringent standard.
- (vi) The facility provides “good cause” (in writing) for the immediate need to install a new replacement unit before an ATC can be obtained for a new unit. The new unit must comply with the operational requirements and emission limits for new units.
- (vii) The “good cause” notification shall include the following:
  - 1) Manufacturer’s specifications and a copy of the emission certification or guarantee for the new unit;
  - 2) A calculation of the daily and annual potential to emit of the new unit, based on operating 24 hours per day and 8,760 hours per year at the unit’s rated heat input.
  - 3) A demonstration that the potential to emit of the new unit is below the BACT threshold for all pollutants
  - 4) A demonstration that the project does not result in the stationary source triggering the emissions offset threshold for all pollutants. If emission offsets are triggered, the permittee shall provide adequate emission reductions credits as required by Regulation VIII.
- (viii) An Authority to Construct application for the new replacement unit is submitted to the District within 15 calendar days of the existing unit being replaced and the final District ATC for the new replacement unit is obtained no later than 180 days from the date of replacement.
- (ix) The facility shall obtain written District approval prior to installing the new replacement unit.

For the purpose of this condition, an external combustion unit replacement includes replacement of burner assemblies. The District’s written approval in (ix) above shall act as a temporary ATC pursuant to District Rule 201 and Regulation VIII.

Any external combustion unit installed pursuant to this permit condition shall be

immediately shut down if the District determines that the requirements of this condition have not been met. Such notification shall be in writing from the District.

- (i) Permanent Unit Replacement: If Devices 111723, 111724, 111712, 111758 cannot be repaired they may be replaced with a new unit without first obtaining an Authority to Construct Permit only if the requirements (a-e) listed herein are satisfied:
  - (i) The unit supports a critical facility and national assets.
  - (ii) The unit breaks down and cannot be repaired and needs to be replaced by a new unit.
  - (iii) The existing units must meet the emission limits established in Rule 361;
  - (iv) The fuel usage for the existing units must be monitored using District approved, pressure and temperature correcting fuel meters;
  - (v) The facility provides "good cause" (in writing) for the immediate need to repair or install a permanent replacement unit prior to the time period before an ATC permit can be obtained for a new unit. The new unit must comply with the requirements of the Rule 361 for new units. If a new unit is not immediately available, a temporary unit may be used while the new replacement unit is being procured. During this time period, the temporary replacement unit must meet the same guidelines and procedures as defined in the permit condition.
  - (vi) An Authority to Construct application for the new permanent unit is submitted to the District within 15 days of the existing unit being repaired or replaced and the District permit for the new unit is obtained no later than 180 days from the date of unit repair or replacement (these timelines include the use of a temporary unit).
  - (vii) For each permitted unit to be permanently replaced pursuant to this condition, the permittee shall notify the District in writing within 14 days of either the permanent or temporary unit being installed.

Any unit installed (either temporally or permanently) pursuant to this permit condition shall be immediately shut down if the District determines that the requirements of this condition have not been met.

**C.3 Stationary Emergency Standby Internal Combustion Engines.** The equipment listed in Attachment 10.3 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits: The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 5.1-3 and 5.1-4. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.
  - (i) The following emission limits apply to Device # 112253 only: NO<sub>x</sub> 500 ppmv; ROC 750 ppmv; CO 4,500 ppmv. Concentrations measured at 15% O<sub>2</sub>.
- (b) Operational Restrictions: The internal combustion engines are subject to the operational hour restrictions listed in Attachment 10.3. The following additional requirements listed below also apply. Emergency use operations, as defined in the ATCM<sup>5</sup>, have no operational hours limitations.
  - (i) Maintenance & Testing Use Limit: The stationary emergency standby diesel-fueled compression ignition (CI) engine(s) subject to this permit, except for in-use firewater pump engines, shall limit maintenance and testing<sup>6</sup> operations to no more than the hours listed in Attachment 10.3.
  - (ii) Impending Rotating Outage Use: The stationary emergency standby diesel-fueled CI engine(s) subject to this permit may be operated in response to the notification of an impending rotating outage if all the conditions cited in the ATCM are met, as applicable.
  - (iii) Fuel and Fuel Additive Requirements: The permittee may only add fuel and/or fuel additives to the engine or any fuel tank directly attached to the engine that comply with the ATCM, as applicable.
  - (iv) Firewater Pumps: The stationary emergency standby diesel-fueled CI engines subject to this permit that are operated as firewater pumps shall not operate more than the number of hours necessary to comply with the testing requirements of the current National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems".
  - (v) At-School and Near-School Provisions: Device #114029 may not be operated for non-emergency use, including maintenance and testing, whenever there is a school sponsored activity between 7:30 a.m. and 3:30 p.m. on days when school is in session.
  - (vi) The following restrictions apply to Device #110738, #111765 and #109236 only:

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<sup>5</sup> As used in the permit, "ATCM" means Section 93115, Title 17, California Code of Regulations. Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines

<sup>6</sup> "maintenance and testing" is defined in of the ATCM and may also be found on the District webpage at [http://www.sbcapcd.org/eng/atcm/dice/ES\\_MT\\_DICE\\_Definitions.pdf](http://www.sbcapcd.org/eng/atcm/dice/ES_MT_DICE_Definitions.pdf)



- a. *Minimum Exhaust Temperature for Filter Regeneration.* The engine must operate at a load level to achieve sufficient exhaust temperature of 464 °F (240 °C) for regeneration for 40% of the duty cycle. Operation at lower temperatures is allowed up to 200 consecutive hours, but the CRT filter may require a maintenance step of accumulated soot burning by operating above 572 °F (300 °C) for five to ten hours.

The permittee shall notify the District, in writing, any time operations exceed 200 consecutive hours at exhaust temperature under 464 °F (240 °C). The written notification shall include a technical discussion detailing why maintenance to clean the filter has not occurred. If the District does not concur with the technical justification provided, the engine shall be tagged out of service until the required maintenance to clean the filter is completed. This notification is not required if maintenance is taken to clean the filter before exceeding the 200 hours.

- b. *Maximum Idle Operations.* Each engine may not operate at an idle for more than 12 consecutive hours.
- c. *Regeneration Requirement.* Each engine may have no more than 24 cold starts with 30 minute idle sessions each, before regeneration of the diesel particulate filter is required.
- d. *Filter Cleaning.* Each engine may operate no more than 5,000 hours before each diesel particulate filter must be cleaned.
- e. *Diagnostic Module Display Warning and Alarm Response Actions.* The response actions defined in the District-approved VAFB Johnson Matthey DPF Operation and Maintenance Plan shall be implemented in the event of diagnostic module (CRTdm) warnings and alarms.

(vii) The following restrictions apply to Device #114491 only:

- a. *Minimum Exhaust Temperature for Filter Regeneration:* The engine must operate at the load level required to achieve 464°F (240°C) for a minimum of 40 percent of the engine's operating time and a NOX/PM ratio of 15 at  $\geq 300^{\circ}\text{C}$  and 20 at  $\leq 300^{\circ}\text{C}$ . [Re: EO DE-08-009-03]
- b. *Exhaust Temperature:* The engine may not operate with an exhaust temperature below 464°F for more than 720 consecutive minutes. [Re: EO DE-08-009-03]
- c. *Exhaust Temperature Notification:* The permittee shall notify the District, in writing, any time operations exceed 720 consecutive minutes at exhaust temperature under 464°F (240°C). The written notification shall include a technical discussion detailing why maintenance to clean the filter has not occurred. If the District does not concur with the technical justification provided, the engine shall be tagged out of service until the required maintenance to clean the filter is completed. This notification is not required if maintenance is taken to clean the filter before exceeding the 720 minutes. [Re: EO DE-08-009-03]

- d. *NO<sub>x</sub>/PM Ratio Requirements*: The engine shall operate with a NO<sub>x</sub>/PM ratio of at least 8. [Re: EO DE-08-009-03]
  - e. *Cold Starts and Idle Sessions*: The permittee shall not conduct more than Twenty-four (24) consecutive cold starts and 30 minute idle sessions between each regeneration of the DPF. [Re: EO DE-08-009-03]
  - f. *Filter Cleaning*: The filter shall be cleaned according to manufacturer's instructions after any of the following:
    - (i) 150 half-hour cold starts with associated regenerations
    - (ii) 1,000 hours of emergency/standby use; or
    - (iii) Whenever the diagnostic module indicates a filter cleaning is required. [Re: EO DE-08-009-03]
  - g. *Diagnostic Module Display Warning and Alarm Response Actions*: The response actions defined in the District-approved VAFB Johnson Matthey DPF Operation and Maintenance Plan shall be implemented in the event of diagnostic module (CRTdm) warnings and alarms.
  - h. *Initial Startup Hours*: Initial startup hours shall not exceed 8 hours. These hours do not count towards maintenance and testing limits.
  - i. *Emission Test Hours*: Annual emission testing hours shall not exceed 10 hours/year. These hours do not count towards maintenance and testing limits. This 10 hours/year limit may be extended by the District for good cause and if a written request is made to the District.
- (viii) The following restrictions apply to Device #111765 only:
- a. *Emission Test Hours*: Annual emission testing hours shall not exceed 10 hours per year. These hours do not count towards maintenance and testing limits. This 10 hours per year limit may be extended by the District for good cause and if a written request is made to the District.
- (ix) The following restrictions apply to Device #112253 only:
- a. *Heat Input*. Maximum heat input to the engine listed in this permit is restricted to 11.18 MMBtu/day, 223.56 MMBtu/quarter, and 894.24 MMBtu/year.
  - b. *Engine Hours of Operation*. The engine listed in this permit shall not operate more than 7.5 hours/day, 150 hours/quarter and 600 hours/year.
- (x) The following restrictions apply to Device #113280, 113281, 113282, 113283, 13284 only:
- a. *Stationary Use*: The engines listed in this condition, even if they are capable of being transported or conveyed, shall function as stationary engines at the locations listed in this permit and at other locations on

Vandenberg Air Force Base. As such, these engines are subject to the requirements Airborne Toxic Control Measure for Stationary Compression Ignition Engines, including the limits on the hours of operation for maintenance and testing. When not required for use as a backup generator at a specific site, these engines may be stored at a central facility.

- b. *Initial Startup Hours*: Initial startup hours for each engine shall not exceed 5 hours.

(xi) The following restrictions apply to Device #113003 only:

- a. *Engine Use at Building 1594*: The permittee may operate the engine specified in this permit condition or any other Tier 3 rental engine that is equal or smaller in horsepower to provide emergency power to Building 1594. The permittee shall notify the District a minimum of 14-days in advance of each engine replacement, and provide the make, model, horsepower, and tier rating of the new engine. For emergency replacements notification is required within 3 business days after replacement.

(xii) The following restrictions apply to Device #113916 and #113917, #114377, #114779 only:

- a. *Initial Startup Hours*: Initial startup hours for each engine shall not exceed 5 hours.

(xii) Existing emergency standby compression ignition reciprocating internal combustion engines (RICE) must comply with the applicable operating limits by no later than May 3, 2013. The following operating requirements apply:

- (1) Change the oil and filter every 500 hours of operation or annually, whichever comes first.
- (2) Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first.
- (3) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first.

(c) Monitoring: The equipment permitted herein is subject to the following monitoring requirements:

- (i) Non-Resettable Hour Meter: Each stationary emergency standby diesel-fueled CI engine(s) subject to this permit shall have installed a non-resettable hour meter with a minimum display capability of 9,999 hours, unless the District has determined (in writing) that a non-resettable hour meter with a different minimum display capability is appropriate in consideration of the historical use of the engine and the owner or operator's compliance history.

- (ii) Source Testing. Device #112253 shall be source tested biennially (every two years) for air emissions and process parameters listed in Table 4.5.3 of this permit. The month of March first shall be the source test anniversary date. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. In addition, the source test provisions of permit condition C.22 shall apply.
- (iii) The following monitoring requirements apply to Device #110738, #111765 and #114491 only:
  - a. *Exhaust Temperature and Back Pressure Monitoring*. The temperature of the exhaust and back pressure from the engine shall be monitored every six minutes using the Johnson Matthey CRTdm Diagnostic Module installed with the diesel particulate filter.
  - b. *VAFB Johnson Matthey DPF Operation and Maintenance Plan*. The operator shall comply with the VAFB Johnson Matthey DPF Operation and Maintenance Plan approved by the District on December 21, 2009 and all District-approved updates thereof. The Plan is an enforceable part of this permit.
- (iv) The following monitoring requirements apply to Device #112253 only:
  - a. Portable analyzer readings for NO<sub>x</sub> and CO shall be performed at least quarterly per Rule 333.F.
  - b. The permittee shall monitor the HHV, sulfur content, and fuel usage in accordance with the current District-approved VAFB Fuel Use Monitoring Plan (FUMP).
- (v) *Fuel Use Monitoring Plan (FUMP)*. The stationary emergency standby internal combustion engines subject to this permit shall comply with the Fuel Use Monitoring Plan approved by the District on April 12, 2010, or a subsequent District-approved version. This plan is incorporated by reference as an enforceable part of this permit.
- (d) Recordkeeping. The following records shall be maintained:
  - (i) emergency use hours of operation;
  - (ii) maintenance and testing hours of operation;
  - (iii) hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit};
  - (iv) hours of operation to comply with the requirements of NFPA 25/100 {if applicable};
  - (v) hours of operation for all uses other than those specified in items (i) - (iii) above along with a description of what those hours were for;

- (vi) The owner or operator shall document fuel use through the retention of fuel purchase records that demonstrate that the only fuel purchased and added to an emergency standby engine or engines, or to any fuel tank directly attached to an emergency standby engine or engines, meets the requirements of the ATCM and, at a minimum, contain the following information for each individual fuel purchase transaction:
  - a. identification of the fuel purchased as either CARB Diesel, or an alternative diesel fuel that meets the requirements of the Verification Procedure, or an alternative fuel, or CARB Diesel fuel used with additives that meet the requirements of the Verification Procedure, or any combination of the above.
  - b. amount of fuel purchased;
  - c. date when the fuel was purchased;
  - d. signature of owner or operator or representative of owner or operator who received the fuel;
  - e. signature of fuel provider indicating fuel was delivered;
- (vii) The following recordkeeping requirements apply to Device #110738 and #111765, 114491 only:
  - a. *Operating Hours.* A log shall be maintained that details the number of operating hours and days for each month that the engine is operated and the cumulative total annual hours. The log shall also identify the number of hours the engine operated before the diesel particulate filter is cleaned. The log shall designate whether the operations were due to: emergency use - day of launch; emergency use - power failure; maintenance & testing; other (list reason).
  - b. *Exhaust Temperature and Engine Back Pressure.* Exhaust temperature and engine backpressure data shall be collected and stored electronically by the CRTdm module. At the close of each calendar year, the exhaust temperature and backpressure data (and any other data identified in the VAFB Johnson Matthey DPF Operation and Maintenance Plan) shall be downloaded and archived in a MS Excel spreadsheet capable of sorting and other data manipulation. Upon request, the District may require access to this data on a more frequent or ad hoc basis.
  - c. *Engine Calibration and Maintenance Logs.* IC engine calibration and maintenance logs shall be maintained. All diesel particulate filter maintenance and regeneration actions shall be documented by date and time.
- (viii) The following recordkeeping requirements apply to Device #112253:

- a. A log shall be maintained listing the start and stop hour meter readings for each day that the engine is operated;
- b. Written engine operations logs for the engine consistent with the requirements of Rule 333.B.2;
- c. Written records documenting engine fuel use per the current District-approved FUMP;
- d. Liquid fuel analysis results for HHV and sulfur content data as required by the FUMP;
- e. Results of quarterly portable analyzer measurements of NO<sub>x</sub> and CO.

(ix) The following recordkeeping requirements apply to Device #11303:

- a. The permittee shall record and maintain the information listed below. Log entries shall be retained for a minimum of 36 months from the date of entry. Log entries made within 24 months of the most recent entry shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request. Log entries made from 25 to 36 months from most recent entry shall be made available to District staff within 5 working days from request. Use of District Form ENF-92 (Diesel-Fired Emergency Standby Engine Recordkeeping Form) can be used for this requirement.
  - 1) The make, model, horsepower, and tier rating of any rental engine other than the engine listed in this permit that is used to provide backup power to this facility. Include the arrival date and the departure date of each engine.
  - 2) emergency use hours of operation for the engine listed in this permit and any rental replacement engine.
  - 3) maintenance and testing hours of operation for the engine listed in this permit and any rental replacement engine.
  - 4) hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit}.
  - 5) hours of operation for all uses other than those specified in items 1) - 3) above along with a description of what those hours were for.
  - 6) The owner or operator shall document fuel use through the retention of fuel purchase records that demonstrate that the only fuel purchased and added to an emergency standby engine or engines, or to any fuel tank directly attached to an emergency standby engine or engines, meets the requirements of the ATCM.

(x) For each engine subject to Subpart ZZZZ the following records shall be kept:

- (1) The date of each engine oil change, the number of hours of operation since the last oil change, and the date and results of each oil analysis.
  - (2) The date of each engine air filter inspection and the number of hours of operation since the last air filter inspection. Indicate if the air filter was replaced as a result of the inspection.
  - (3) The date of each engine's hose and belts inspection and the number of hours of operation since the last hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection.
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit.

C.4 **Hypergolic Storage Facilities (HSF).** The equipment subject to this condition is listed in Attachment 10.5. The following conditions shall apply:

- (a) Emission Limits. The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 5.3. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.
- (b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:
  - (i) *Operating Hours:* This facility may operate 24 hours/day, 365 days/year.
  - (ii) *Oxidizer Vapor Scrubbing System (OVSS):* For an HFS equipped with an OVSS, all detectable oxidizer vapor emissions except for fugitive emissions, tank relief valve changes, pressure gauge changes, sample bottle draining/cleaning, molecular sieve catalyst and filter replacement and connecting/disconnecting flexible hoses will be vented through the Oxidizer Vapor Scrubber System.
  - (iii) *Fuel Vapor Scrubbing System (FVSS):* For an HFS equipped with a FVSS, except for fugitive emissions, all detectable fuel vapor emissions from storage, loading, unloading, and transfer activities shall be abated by the FVSS.
  - (iv) *Fugitive Inspection and Maintenance Program:* The permittee shall perform a daily inspection and maintenance (I&M) program designed to prevent any fugitive emissions of oxidizer vapor to the atmosphere, in accordance with the District -approved I&M Plan.
  - (v) *Facility Condition:* Any defective component of the fuel system resulting in the release of fuel emissions shall be immediately repaired, replaced, or adjusted as necessary in a reasonable, safe, and timely manner.
- (c) Monitoring. The permitted equipment is subject to the following monitoring requirements:
  - (i) The permittee shall monitor the date and time span (hour and minutes) of each period of OVSS operation, the ambient minimum and maximum temperature during each activity, and any noteworthy events involving venting through the OVSS.
- (d) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:
  - (i) The permittee shall maintain an on-site operations logbook in which any and all activities involving venting through the OVSS shall be recorded. Also, the fugitive I&M inspection results at the facility shall be recorded each day that operators are on-site. At a minimum, the log shall contain the date and time span (hour and minutes) of each period of OVSS operation, the ambient minimum and maximum temperature during each activity, noteworthy events, any I&M Plan recordkeeping requirements, and the signature of the recorder. The permittee shall make such records, including on-site logbook entries,



available to the District and provide access to such records upon notice from the District.

- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).

**C.5 SLC-2 Hypergolic Fuel Storage and Handling.** The following equipment is included in this emissions unit category:

Device No.	Name
006221	Nitrogen Tetroxide Tank (SLC-2)
006222	Aerozine 50 Tank (SLC-2)
006223	Peabody Engineering Fuel and Oxidizer Scrubbers (SLC-2)
113065	Trailer Mounted Fuel Scrubber System (SLC-2)
113079	Trailer Mounted Oxidizer Scrubber System (SLC-2)

- (a) Emission Limitations. The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 1. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

Device No.	Lb ROC/ Day	Lb ROC/ year	Lb NOx/ day	Lb NOx/ year	Lb H <sub>2</sub> S/ day	Lb H <sub>2</sub> S/ year
006221	--	--	--	--	--	--
006222	--	--	--	--	--	--
006223	10.00	0.01	15.90	0.05	--	--
113065	0.92	0.003	--	--	--	--
113079	--	--	4.52	0.023	--	--

- (b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:

- a. *Throughput Limits:* following yearly throughput limits shall not be exceeded:

<i>Material</i>	<i>Gallons/Year</i>
Fuel (A-50)	6,400
Oxidizer (N <sub>2</sub> O <sub>4</sub> )	7,550

Where the yearly throughput is the amount of material transferred out of the tanker truck during the calendar year.

- b. *Peabody Scrubbers:* The Peabody scrubber systems shall be in operation when fuel and oxidizer is transferred to the ready storage vessels. The minimum efficiency of the scrubbers shall be 90 percent.
- c. *Trailer Mounted Fuel and Oxidizer Scrubbers:* The scrubber systems shall be in operation fuel and oxidizer is transferred to launch vehicles. The minimum efficiency of the scrubbers shall be 95 percent.
- d. *Facility Condition:* Any defective component of the fuel or oxidizer systems resulting in the release of fuel or oxidizer emissions shall be immediately repaired, replaced, or adjusted as necessary in a reasonable, safe, and timely manner.

- (c) Monitoring. The permitted equipment is subject to the following monitoring requirements:
  - a. The transfer dates and amounts of A-50 transferred from the ready storage vessel.
  - b. The transfer dates and amounts of oxidizer ( $\text{N}_2\text{O}_4$ ) transferred from the ready storage vessel.
  - c. The transfer dates and amounts of A-50 transferred to or from the launch vehicle.
  - d. The transfer dates and amounts of oxidizer ( $\text{N}_2\text{O}_4$ ) transferred to or from the launch vehicle.
  - e. The dates and types of each launch activity and its resulting emissions (e.g., Activity  $\text{L}_1$ ,  $\text{L}_2$ ,  $\text{L}_3$  - as defined in the PTO Modification Application 8658-01 dated January 21, 1994).
- (d) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:
  - a. The transfer dates and amounts of A-50 transferred from the ready storage vessel.
  - b. The transfer dates and amounts of oxidizer ( $\text{N}_2\text{O}_4$ ) transferred from the ready storage vessel.
  - c. The transfer dates and amounts of A-50 transferred to or from the launch vehicle.
  - d. The transfer dates and amounts of oxidizer ( $\text{N}_2\text{O}_4$ ) transferred to or from the launch vehicle.
  - e. The dates and types of each launch activity and its resulting emissions (e.g., Activity  $\text{L}_1$ ,  $\text{L}_2$ ,  $\text{L}_3$  - as defined in the PTO Modification Application 8658-01 dated January 21, 1994).
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).

**C.6 Microwave Reactor System (MRS):** The equipment subject to this condition is listed in Attachment 10.5. The following conditions shall apply:

- (a) Emission Limitations. The mass emissions from the equipment permitted herein shall not exceed the values listed below. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

Permitted Emissions

<b>Emissions</b>	<b>NO<sub>x</sub></b>	<b>ROC</b>
lbs/day	0.01	0.57
tons/qtr	0.000	0.008
tons/year	0.000	0.008

- (b) Operational Restrictions. The permitted equipment is subject to the following operational restrictions:
- All emissions from the unloading of hypergolic propellant from satellites and launch/re-entry vehicles shall be directed through the Microwave Reactor System.
  - Prior to the introduction of vapors into the lines and devices, the permittee shall conduct a leak-check of all valves, unions, connections or other potential leak paths to verify that the system is leak tight. A record of this leak-check shall be made available to the District upon request.
  - Any defective component of the fuel or oxidizer systems resulting in the release of fuel or oxidizer emissions shall be immediately repaired, replaced, or adjusted as necessary in a reasonable, safe, and timely manner.
  - Only two satellites or launch/re-entry vehicles shall be unloaded per year.
  - Periodic maintenance shall be conducted as specified in the Operating and Maintenance Manual for the MRS.
- (c) Monitoring. The permitted equipment is subject to the following monitoring requirements:
- The transfer dates and amounts of hypergolic fuel transferred from satellites or launch/re-entry vehicles.
  - The transfer dates and amounts of hypergolic oxidizer transferred from satellites or launch/re-entry vehicles.
  - The resulting emissions as defined in the permit application and discussed in the Permit Evaluation.

- (d) Recordkeeping. The following records shall be maintained by the permittee for a minimum of three (3) years from the date of each entry and shall be made available to the District upon request:
- a. The dates that the MRS was used to control hypergolic fuel emissions.
  - b. The dates that the MRS was used to control hypergolic oxidizer emissions.
  - c. The dates and duration of any fault indicators during unloading operations, the fault message, the remedy taken to resolve the fault, and the resulting emissions of hypergolic fuel to atmosphere due to the fault.
  - d. The NO<sub>x</sub> and ROC emissions from each satellite or launch/re-entry vehicle unloading event.
  - e. The dates and details of periodic maintenance and of any repairs or modifications made to the MRS.
- (a) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).

**C.6 Spray Booths.** The equipment listed in Attachment 10.4 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits. The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 5.3. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit. Compliance with the pound per day (lb/day) emission limit shall be demonstrated by dividing the monthly emissions [determined from records kept of coating and solvent use per the Recordkeeping condition of this permit by 21.7 days per month]. Compliance with the ton per year (TPY) emission limit shall be demonstrated by compiling the monthly ROC emission records for the year.
- (b) Operational Restrictions. In addition to the requirements of District Regulation III (Prohibitions), the equipment and processes permitted herein is subject to the following operational restrictions:
  - (i) *Storage of ROC-Containing Materials:* All new and used materials containing reactive organic compounds (ROCs) shall be stored in closed containers equipped with a tight-fitting seal. Containers used for storing ROC-containing materials shall remain closed except during extraction or introduction of materials for use or storage.
  - (ii) *Surface Preparation and Cleanup:* The permittees shall use closed, non-absorbent, and fire resistant containers for the storage and disposal of all cloth and/or paper materials that have been soaked with ROCs during use in surface preparation and/or cleanup activities.
  - (iii) *Spray Booth Operation:* Whenever surface coating materials are applied within the spray booth, the exhaust fan(s) shall be operating, effective overspray filters and baffle plates (if any) shall be in place and operational, and the doors of the spray booth (if applicable) shall be kept closed until the application of all surface coating materials has ceased. Surface coating materials used shall comply with District Rules 323, 330, 337, 339, and 351 as applicable.
  - (iv) *Spray Gun Cleaning:* Cleaning of spray guns by spraying materials containing ROCs through the gun assembly shall be conducted within the containment structure, directly into a container with a vapor tight cover, or by the use of an enclosed spray gun washing machine. The cover of the wash container shall be closed immediately after the cleaning operation.
  - (v) *Spray Gun Cleaning Systems:* For spray booth operations which include an enclosed cleaning system, spray equipment cleaning shall be done in this cleaning system.
  - (vi) *Coating Activities:* Application of all surface coatings shall be done within the containment structure (i.e., spray booth). Items that cannot physically fit inside the booth may be coated outside it after receiving written District approval.
  - (vii) *Prohibitions:* The use of any motor vehicle and mobile equipment coatings containing hexavalent chromium (Cr+6) or cadmium (Cd) is prohibited. This prohibition does not include coatings such as Amerlock 2/400 resin and

Amerlock 400 Cure which contains trace amounts of hexavalent chromium and/or cadmium because the hexavalent chromium or cadmium was not introduced as a pigment or as an agent that imparts any property or characteristic to the coating during manufacturing, distribution, or use of the applicable coating.

- (c) Monitoring. The equipment permitted herein is subject to the following monitoring requirements:
  - (i) Spray booth filters shall be inspected prior to booth operation and replaced when necessary to ensure control of particulate emissions and overspray.
  - (ii) Spray booth filters shall be inspected prior to booth operation and replaced when necessary to ensure control of particulate emissions and overspray.
  - (iii) Water curtains shall be inspected for proper operation prior to operating to ensure control of particulate emissions and overspray.
  - (iii) If a manometer is installed in the booth, the permittee shall ensure that the device is functioning and indicating a measurable pressure differential at all times when the booth is in use.
- (d) Recordkeeping. The following records shall be maintained by the permittee and shall be made available to the District upon request:
  - (i) District rules 330, 337, 339, 351, 353 and any other applicable prohibitory rule.
  - (ii) Brand name, stock identification number and generic product class of each surface coating, associated solvent or material containing reactive organic compounds (ROC) used during each month.
  - (iii) Gross monthly volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material listed in response to condition (d)(ii) of this recordkeeping condition and the resulting ROC emissions.
  - (iv) Gross annual volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material listed in response to (d)(ii) of this recordkeeping condition and the resulting ROC emissions.
  - (v) Maintain current coating manufacturer specification sheets, Material Safety Data Sheets or current air quality data sheets, which contain the ROC content of each material listed in response to (d)(ii) of this recordkeeping condition.
  - (vi) Maintain purchase records identifying the type or name and the volume of material purchased for each reactive organic compound-containing material.
  - (vii) In addition to any recordkeeping requirement stated within this condition, the permittee shall maintain records in accordance with all applicable District rules and regulations.

- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).



**C.7 Solvent Usage.** The following equipment is included in this emissions unit category:

Device No.	Name
114257	Miscellaneous Solvent Usage – Delta II
114277	Miscellaneous Solvent use associated with projects existing prior to October 1, 2004
110309	Miscellaneous Solvent use associated with projects beginning after October 1, 2004

- (a) Emission Limitations. Reactive organic compound (ROC) emissions from the use of miscellaneous ROC-containing solvents <sup>7</sup> shall not exceed the following:

Device No.	Lb/day	Ton/qtr	Ton/year
114257	24	--	3.17
114277	24.00	--	3.17
110309	22.73	0.25	1.00

- (b) Operational Restrictions. In addition to the requirements of District Regulation III (*Prohibitions*), the equipment and processes permitted herein is subject to the following operational restrictions:
- Storage of ROC-Containing Materials:* All materials (e.g., coatings, solvents) containing ROCs shall be stored in closed containers equipped with a tight-fitting seal. Except during extraction or introduction of materials for use or storage, these containers shall remain closed.
  - Surface Preparation and Cleanup:* The permittees shall use closed, non-absorbent, and fire resistant containers for the storage and disposal of all cloth and/or paper materials that have been soaked with ROCs during use in surface preparation and/or cleanup activities.
  - Restricted Use Solvents:* This facility uses compounds listed in Rule 202.D.10.I. These compounds are not currently subject to operational or emission limits. If, in the future, these compounds are designated as toxic air contaminants, hazardous air pollutants, reactive organic compounds, or greenhouse gasses, the District may establish operational or emission limits.
- (c) Shop Codes. In order to properly allocate solvent usage to this permit as tracked by the VAFB HazMart Pharmacy, the permittee shall maintain a list of shop codes whose solvent usage is subject to this permit. This list shall contain the shop code, the building the shop is in, the types of solvents used, the general purpose the solvent is used, and the date of initial issue of solvent for the shop. This list shall be updated each time an existing shop is renumbered and shall be included with the VAFB annual report. The format of this list is defined in Table 1 (*Shop Code List for Existing Solvent Use Baseline*) of this permit.

<sup>7</sup> As used in this permit, the term solvent is defined to include solvents, adhesive, sealants and all other ROCs used with this equipment and processes.

- (d) Recordkeeping. The permittee shall record and maintain the following information. This data shall be maintained for a minimum of three (3) years from the date of each entry and made available to the District upon request:
- a. All records required by District Rules: 317.G, 337.H, 353.O, 370.E.2.a and any other applicable prohibitory rule.
  - b. Brand name, shop code, stock identification number, and generic product class of each solvent or material containing reactive organic compounds (ROC) used during the month.
  - c. Gross monthly volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material.
  - d. Gross annual volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material.
  - e. Material safety data sheets and purchase or receipt records (or equivalent records) approved by the District for each material.
  - f. Gross annual volume (gallons or pounds) usage of compounds containing tertiary-butyl acetate. The annual emissions are calculated by multiplying the gross annual volume usage of compounds containing tertiary-butyl acetate by the tertiary-butyl acetate content of the compound.
  - g. Gross annual volume usage (gallons) of each of the compounds listed in District Rule 202.D.10.1.1.
  - h. In addition to any recordkeeping requirement stated within this condition, the permittees shall maintain records in accordance with all applicable District rules and regulations.
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit.

**C.8 Storage Tanks/H<sub>2</sub>S Scrubbers.** The following equipment is included in this emissions unit category:

Device No.	Name
104469	RP-1 Storage Tank
109896	JP-8 Storage Tank #1702
109897	JP-8 Storage Tank #1703
109898	Tanker Truck/Trailer Unloading Equipment
109899	Tanker Truck/Trailer Loading Equipment
007602	Hydrogen Sulfide Scrubbers

a. Emission Limits:

Device No.	Lb ROC/ Day	Lb ROC/ year	Lb NOx/ day	Lb NOx/ year	Lb H <sub>2</sub> S/ day	Lb H <sub>2</sub> S/ year
104469	5.70	0.02	--	--	--	--
109896	0.21	0.04	--	--	--	--
109897	0.21	0.04	--	--	--	--
109898	--	--	--	--	--	--
109899	7.20	0.20	--	--	--	--
007602	--	--	--	--	62.63	11.43

b. Operational Restrictions: The equipment permitted herein is subject to the following operational restrictions listed below:

(i) *Throughput Limits:* following yearly throughput limits shall not be exceeded:

Device	Equipment	Gal/yr.
104469	RP-1 Propellant	114,000 gal/yr.
109896	JP-8 Storage Tank	2,040,000 gal/yr.
109897	JP-8 Storage Tank	2,040,000 gal/yr.
007602 <sup>2</sup>	Degasifier	6,000,000 gal/day

<sup>2</sup> Daily production is calculated as monthly groundwater produced divided by monthly producing days

(ii) *Nitrogen Blanket (Device #104469):* A gaseous nitrogen blanket pressure of 5 to 25 psig shall be maintained in the Ready Storage Vessel at all times except when performing system operational or maintenance functions.

(iii) *Leak Checking (Device #104469):* Each system shall be leak checked prior to use in accordance with launch operating procedures. Leak check procedures shall be maintained on-site at SLC 2 and made available to the District upon request.

(iv) *Facility Condition (Device #104469):* Any defective component of the fuel systems resulting in the release of fuel emissions shall be immediately repaired, replaced, or adjusted as necessary in a reasonable, safe, and timely manner.

- (v) *Degasifier Replacements (Device #007602)*: VAFB shall inform the District in writing of the initial equipment operation date(s) of the replacement degasifier(s). This notification shall be received by the District at least three (3) calendar days before the date of initial operation of the replacement degasifier(s). Further, VAFB shall arrange for the District to conduct equipment inspection of the replacement degasifier(s). The arrangements shall be made not more than sixty (60) calendar days (or other mutually agreed to time period) after initial equipment operation of the replacement degasifier(s) begins. This inspection is required to verify that the replacement equipment and its operation comply with District Rules and permit conditions.
- c. Monitoring Requirements. The permitted equipment is subject to the following monitoring requirements:
- (i) RP-1 Propellant (Device #104469):
    - a) The amount of fuel transferred out of the RSV and the date of the operation.
    - b) ROC emissions (lbs/day) caused by each launch activity by date and type of such activity (e.g., Activity L1, L2, and L3 as shown in the Permit to Operate Application 8686 process flow diagram dated September 23, 1994).
  - (ii) JP-8 Storage Tanks (Device #109896, 109897)
    - a) *Liquid Fuel Analysis*: The permittee shall maintain fuel analysis data per the current VAFB Fuel Use Monitoring Plan (FUMP), dated November 29, 1999 and approved July 21, 2000, or any subsequent District-approved revision.
    - b) *Throughput Monitoring*: The volume of JP-8 shipped through Tanks 1702 and 1703 shall be metered according to the methods described in the Fuel Use Monitoring Plan.
  - (iv) Degasifier (Device #007602):
    - a) The monthly volume of groundwater produced and number of days of water production.
    - b) The H<sub>2</sub>S content (mg/liter) of the inlet water shall be measured on an annual basis. If the annual measurement ever exceeds 0.50 mg/liter then H<sub>2</sub>S testing shall be done on a quarterly basis. If four consecutive quarterly readings are below 0.05 mg/liter, the testing schedule shall return to annual.
    - c) The date(s) that initial operation of replacement degasifier(s) occurs.
  - (d) Recordkeeping Requirements. The following records shall be maintained by the permittee and shall be made available to the District upon request:
    - (i) RP-1 Propellant (Device #104469)

- a) The amount of fuel transferred out of the RSV and the date of the operation.
  - b) ROC emissions (lbs/day) caused by each launch activity by date and type of such activity (e.g., Activity L1, L2, and L3 as shown in the Permit to Operate Application 8686 process flow diagram dated September 23, 1994).
- (ii) JP-8 Storage Tanks (Device #109896, 109897):
  - a) The gross JP-8 throughput for Tank 1702 on a monthly and yearly basis.
  - b) The gross JP-8 throughput for Tank 1703 on a monthly and yearly basis.
- (v) Degasifier (Device #007602):
  - a) The monthly volume of groundwater produced and number of days of water production.
  - b) The results of inlet water H<sub>2</sub>S content tests (mg/liter).
  - c) The date(s) that initial operation of replacement degasifier(s) occurs.
- (e) Reporting Requirements. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports) of this permit.

C.7 **Coating Operations.** The equipment listed in Table 5.3 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits: Reactive organic compound (ROC) emissions from the use of miscellaneous ROC-containing solvents shall not exceed the values listed in Tables 5.1-3 and 5.1-4. Daily emissions are calculated as monthly emissions / 21.7 days per month. As used in this permit, the term solvent is defined to include solvents, adhesive, sealants and all other ROCs used with this equipment and processes.
- (b) Operational Restrictions: The equipment permitted herein is subject to the following operational restrictions listed below:
  - (i) *Storage of ROC-Containing Materials:* All materials (e.g., coatings, solvents) containing ROCs shall be stored in closed containers equipped with a tight-fitting seal. Except during extraction or introduction of materials for use or storage, these containers shall remain closed.
  - (ii) *Surface Preparation and Cleanup:* The permittees shall use closed, non-absorbent, and fire resistant containers for the storage and disposal of all cloth and/or paper materials that have been soaked with ROCs during use in surface preparation and/or cleanup activities.
  - (iii) *Restricted Use Solvents:* This facility uses compounds listed in Rule 202.D.10.1. These compounds are not currently subject to operational or emission limits. If, in the future, these compounds are designated as toxic air contaminants, hazardous air pollutants, reactive organic compounds, or greenhouse gasses, the District may establish operational or emission limits.
  - (iv) Separate permits are required for cold solvent cleaners and degreasing equipment and processes that are subject to Rule 321 or other applicable District rules.
  - (v) Permitted solvent use identified as Device #114227 is permitted for use by VAFB for processes at VAFB that were in place prior to October 1, 2004. An Authority to Construct permit is required for any solvent use for VAFB projects after that date.
  - (vi) Permitted solvent use identified as Device #114257 only covers ULA operated solvent processes that were in place prior to August 13, 1999. An Authority to Construct permit is required for any solvent use for ULA projects after that date.
- (d) Recordkeeping. The permittee shall record and maintain the following information and make it available to the District upon request:
  - (i) All records required by District Rules: 317.G, 337.H, 353.O, 370.E.2.a and any other applicable prohibitory rule.
  - (ii) Brand name, shop code, stock identification number, and generic product class of each solvent or material containing reactive organic compounds (ROC) used during the month. Any other records required by applicable District rules.

- (iii) Gross monthly volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material listed in response to condition (d)(ii) of this permit.
  - (iv) Gross annual volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material listed in response to condition (d)(ii) of this permit.
  - (v) Material safety data sheets and purchase or receipt records (or equivalent records) approved by the District for each material listed in response to (d)(ii) above.
  - (vi) Gross annual volume (gallons or pounds) usage of compounds containing tertiary-butyl acetate. The annual emissions are calculated by multiplying the gross annual volume usage of compounds containing tertiary-butyl acetate by the tertiary-butyl acetate content of the compound.
  - (vii) Gross annual volume usage (gallons) of each of the compounds listed in District Rule 202.D.10.1.1.
  - (viii) In addition to any recordkeeping requirement stated within this condition, the permittees shall maintain records in accordance with all applicable District rules and regulations.
  - (ix) The permittee shall maintain a list of shop codes whose solvent usage is subject to this permit (defined as any new or modified solvent use after October 1, 2004). This list shall contain the shop code, the building the shop is in, the types of solvents used, the general purpose the solvent is used, and the date of initial issue of solvent for the shop. This list shall be updated each time a new or modified solvent use takes place at a shop and shall be included with the VAFB annual report. The format of this list is defined in Table 1 (Shop Code List for New/Modified Solvent Use Baseline) of this permit.
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).

C.8 **Gasoline Dispensing Facility.** The equipment listed in Table 5.3 and described Attachment 10.7 are included in this emissions unit category. The following conditions shall apply:

- (a) Emission Limits: Facility emissions of Reactive Organic Compounds (“ROCs”) shall not shall not exceed the values listed in Table 5.1-3 and 5.1-4. Compliance with this condition will be assessed through: (a) the annual gasoline throughput limit, (b) the vapor recovery systems testing, and (c) the inspection and maintenance requirements of this permit, Rule 316, the applicable Executive Orders and State laws, rules and regulations. A copy of this permit and complete copies of the applicable Phase I and Phase II Executive Orders shall be maintained onsite at all times and be made available upon request.

- (i) Throughput Limits: Gasoline throughput shall not exceed the following limits:

Tanks	Location	Gal/yr.
12,000 gal. Tanks	Station Number: B-14400	4,800,000 gal/yr.
10,000 gal. Tanks	Bldg. 10726	1,200,000 gal/yr.
10,000 gal. Tank	Bldg. 10726	1,200,000 gal/yr.

- (ii) *Facility Condition.* Any defective component of the Vapor Recovery System (“VRS”) shall be removed from service until it is repaired, replaced, or adjusted as necessary to ensure compliance.
- (iii) *Vapor Tight Seals.* Gauging and sampling devices on the tanks shall be equipped with vapor-tight covers which shall be closed at all times except during gauging or sampling.
- (iv) VRS Maintenance and Compliance Testing - Routine/Ongoing Operations. The permittee shall routinely conduct and successfully pass the VRS system tests as outlined in Attachment 10.6 as well as any VRS specific tests required in the applicable Executive Orders. These tests shall be conducted pursuant to Attachment 10.6 and shall be performed pursuant to test protocols approved by the ARB. In order for the District to witness testing, the permittee shall notify the District of the planned testing date not less than five (5) business days prior to the testing. All data for each test (including any data showing initial test failures) shall be sent to the District at 260 North San Antonio Drive, Suite A, Santa Barbara, CA, 93110 (Attn: Engineering & Compliance Division) within 30 days of successful test completion, using District or ARB approved reporting forms.
- (v) Inspection, Maintenance, Repair and Testing Records. The permittee keep clear and legible records of all inspections, maintenance, repairs, and testing of any of the gasoline dispensing VRS components at this station. This includes, but is not limited to, the activities for normal operation and maintenance per the manufacturer, ISD control panel alarm tracking (if applicable), performance and/or compliance testing according to ARB protocols, and those following damage to dispensing equipment from a “driveoff” or other kind of damage. The permittee shall ensure that all records obtained from third party contractors are a legible form. The records listed in Attachment 10.6 shall be maintained on site by the permittee for at least three years and shall be made available for District inspection upon request.



- (vi) Phase II Enhanced Vapor Recovery (EVR). The Healy Phase II EVR vapor recovery system is subject to the following requirements:
- (i) The Healy Phase II Enhanced Vapor Recovery System shall be installed, operated and maintained in accordance with the provisions of ARB Executive Order VR-202-A. Scheduled maintenance of the Healy system shall follow the requirements of Exhibit 2 of the Executive Order (“Healy Systems Scheduled Maintenance”).
  - (ii) Only Healy and Veeder-Root Certified Technicians shall be used to install, repair and maintain the Healy Phase II vapor recovery and ISD systems, respectively. The Healy and Veeder-Root Certified Technicians must be able to show proof of certification at all times. One Healy and/or Veeder-Root Certified Technician is required to be at the station during the installation, repair or maintenance of the Healy vapor recovery and/or ISD systems, respectively. Other technicians, working under the guidance of the Certified Technician(s), may perform installation, repair or maintenance of the System(s). The Healy and Veeder-Root Certified Technicians are responsible for conducting start-up testing to verify proper installation/operation of the Healy vapor recovery and ISD systems, respectively. The Healy and/or Veeder-Root Certified Technician shall be present whenever any other technicians are working on the applicable system.
  - (iii) Any nozzle with a product dispensing rate less than 6 gal/min shall be taken out of service until repaired.
  - (iv) The Healy vapor pressure sensor shall be installed into one of the dispensers located closest to the underground storage tanks. Any dispenser can be used if a row of dispensers are equal distance from the tank pad and are within 10 feet of each other.
  - (v) Only Teflon tape (or equivalent) shall be used when installing the dispenser vacuum pump and vapor flow meter.
  - (vi) A Healy 1301 flow limiter shall be used when the gasoline dispensing flow rate is greater than 10 gallons per minute.
  - (vii) A copy of the Healy Systems Installation, Operation, and Maintenance Manual for the Healy Phase II EVR System, Including ISD and the applicable Phase I and Phase II Executive Orders shall be maintained at the facility at all times and be made available for review by the District upon request.
- (vii) In-Station Diagnostics (ISD):

*General ISD Requirements:* The In-Station Diagnostics (“ISD”) system shall be operational at all times. The ISD system shall automatically prohibit the dispensing of fuel through shut down of the gasoline turbine pumps upon a Red Failure alarm or loss of power to the TLS panel. The designated posting time for the daily 24-hour ISD system tests shall be 4:30 AM. Anytime the ISD TLS panel indicates a Yellow Warning alarm, the permittee shall initiate corrective action within 4 hours of the alarm being posted. All repair action information shall be entered into the Facility Repair Log (Attachment 10.6). The permittee shall not “clear” an ISD TLS panel Red Failure alarm without first having made repairs to the system. “Clearing” a Red

Failure alarm without attempting a repair subjects the permittee to District enforcement action. The ISD system shall maintain an electronic archive of monthly reports for a period up to 12 consecutive months and an archive of daily reports for the last 365 consecutive days. The permittee shall maintain an adequate quantity of printer supplies onsite at all times. The District shall be granted access to the ISD TLS panel for the printout of daily and archive reports and to connect a portable computer for system data downloads from the panel's RS-232 and multiport boards.

*Restarting the Station Pumps after ISD Shutdown:* The permittee may "re-enable" operations after the ISD system shuts down the station pumps by using the ISD Shutdown Override command. The permittee may only initiate such action if repairs to the vapor recovery system have been made or if the failed equipment is taken out of service. Such corrective actions shall be documented in the Facility Repair Log. The Facility Repair Log shall also note when the Red Failure alarm was "cleared".

*ISD Equipment Failure:* Gasoline dispensing activities shall cease during a failure of the ISD system itself, unless the permittee contacts the District (961-8802, #2) to obtain Rule 505 "Breakdown" protection for the failed equipment. Breakdown relief is valid for up to 24 hours. If the ISD system itself is unable to be repaired within 24 hours, gasoline dispensing operations shall cease unless a variance is obtained from the District Hearing Board.

*Condition Re-Opening:* The District may revise or suspend (in whole or in part) the requirements of this permit condition and the test matrix Table T based on the District's evaluation of ISD system's effectiveness.

- (i) Phase II Vapor Recovery System Exemption - E-85 (Tank #15- Bldg.10726). Tank #15 is subject to the following requirements:
- a. The Phase II vapor recovery system shall be removed. This includes the removal of all Phase II VRS hoses, whips, nozzles, swivels, breakaways, etc. and the replacement with non-Phase II VRS hoses, whips nozzles, swivels, breakaways, etc.
  - b. The vapor return pipe from the dispenser to the underground storage tank must be disconnected and capped in a vapor tight manner using Teflon tape.
  - c. A negative tank pressure compensation gauge (magnehelic type pressure gauge) shall be installed and maintained operational on the P/V riser piping.
  - d. All vehicles (100 percent) refueled shall be Flexible Fuel Vehicles as defined by District Rule 316.
  - e. The permittee shall keep and maintain records of the make, model year, vehicle identification number and any other information indicating whether the vehicle is a Flexible Fuel Vehicle for all vehicles refueled at the facility. These records shall be maintained on site for at least three years and be made available to the District upon request.
  - f. Any nozzle with a product dispensing rate of more than 10 gallons per minute shall be taken out of service until repaired.

C.9 **Abrasive Blasting.** The equipment listed in Attachment 10.5 are included in this emissions unit category. The following conditions shall apply:

- (a) **Prohibitory Rule Limits.** Particulate emissions (PM) from abrasive blasting equipment operation shall not exceed the limits listed below. These emission limits are based upon Prohibitory Rule limits. Compliance with this condition shall be determined through compliance with the (Operational Restrictions), Recordkeeping, and Reporting conditions, as well as Title 17-Subchapter 6-Abrasive Blasting - California Code of Regulations Compliance the Control Device O&M Monitoring of this permit.

Device	Prohibitory Limits	
	Rule 304	Rule 306
#110229, 10230, 110232, 110233, 112487	0.3 grains/scf	3.74 lbs/hr
#9890	0.3 grains/scf	2.01 lbs/hr
#107916, 107917, 107918	0.3 grains/scf	1.77 lbs/hr

Notes:

- i. Rule 304 prohibitory rule limit.
- ii. Rule 306, Table 306(a). Process weight rate limit.

- (b) **Operational Restrictions.** In addition to the requirements of District Regulation III (Prohibitions), the equipment and processes permitted herein is subject to the following operational restrictions:

(viii) The following abrasive material use limits shall apply:

Device	Abrasive Material Use Limits	
	Daily	Annual
#110229, 10230, 110232, 110233, 112487	6.64 tons	1,726 tons
#9890	2.4 tons	250 tons
#107916, 107917, 107918	2.0 tons	500 tons
#110180	4.8 tons	300 tons

(ii) *Abrasive Containment Tent Use:* All abrasive cleaning of appropriately sized parts at Building 7438 must be performed within the abrasive blasting tent.

(iii) *Abrasive Containment Structure Use:* All abrasive cleaning of appropriately sized parts at Buildings 1800 and 9320 must be performed within the abrasive blasting containment structure. During this activity the dust collector filters shall be used. The dust collection filters shall be maintained in good working order according to manufacturer's guidelines at all time.

- (c) **Recordkeeping.** The permittees shall record and maintain the following information and make it available to the District upon request.

- (i) The daily hours of abrasive blasting containment structure operation shall be recorded each day the equipment is operated.

- (ii) The dates when the dust collection cartridges or filters were replaced.
  - (iii) The amount (pounds or tons) and type of abrasive material consumed daily summarized monthly and annually.
  - (iv) Operation start and end pressure differential readings from Control Device O&M Monitoring permit condition of this permit, if instituted.
- (d) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).
- (e) Title 17-Subchapter 6-Abrasive Blasting - California Code of Regulations Compliance. The permittee shall conduct all operations with this equipment in full compliance with the abrasive blasting provisions of Title 17 Subchapter 6 - California Code of Regulations (§92000 - §92530) at all times.
- (f) Control Device O&M Monitoring. A program of periodic monitoring of the effectiveness of the particulate control device shall be instituted. This program shall consist of either the implementation of the differential pressure monitoring plan described below or source testing of the equipment.
- (i) *Differential Pressure Monitoring Device* (Device 110229). A differential pressure monitoring device such as a manometer or Magnehelic gauge shall be installed to monitor the airflow through the fabric dust collector. The approved June 15, 2010 version of the Differential Pressure Monitoring Plan for ATC 12346-01, or any subsequent District-approved version, is incorporated by reference as an enforceable part of this permit
  - (ii) *Abrasive Blasting Operation and Maintenance Plan*. (Device 107916, 107917, 107918). The permittee shall implement the District-approved Differential Pressure Monitoring Plan for PTO 12155 dated April 12, 2007 (and any approved updates thereof). The approved plan shall be implemented for the life of the project and is hereby incorporated by reference as an enforceable part of this permit.
  - (iii) *Abrasive Blasting System Monitoring Plan* (Device 009890) A program of periodic monitoring of the effectiveness of the particulate control device shall be followed. This program shall be consistent with the Abrasive Blasting System Monitoring Plan for Building 9320 dated December 11, 2003 (or any subsequent District-approved updates). The approved plan shall be implemented for the life of the project and is hereby incorporated by reference as an enforceable part of this permit.

If the above-described plan is not implemented, permittee, upon written request by the District, shall arrange for and conduct a source test to verify compliance with the limits given in Prohibitory Rule Limits condition of this permit. Source testing shall be conducted in accordance with permit condition C.22 of this permit.

## C.10 Landfill Operations

- (a) Emission Limits: n/a
- (b) Operational Limits: n/a
- (c) Monitoring Requirements:
  - (i) Design Capacity and Waste Acceptance: The total amount of municipal solid waste in place at the end of the period and the amount of waste placed in the landfill during the period shall be recorded semi-annually (all in units of tons).
- (d) Recordkeeping Requirements:
  - (i) Design Capacity and Waste Accepted: For each semi-annual calendar period, records shall be maintained documenting the total waste placed in the landfill during the period in tons, and the total solid waste in place at the landfill in tons.
  - (ii) Calculated NMOC Emission Rate: At the end of each semi-annual calendar period, records shall be maintained documenting the calculated NMOC emission rate. The emission rate shall be calculated using the equation specified in 40 CFR 60.754.
- (e) Reporting. On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all data required by permit condition 9.C.12 (Semi-Annual Compliance Verification Reports).

- C.11 **Recordkeeping.** All records and logs required by this permit and any applicable District, state or federal rule or regulation shall be maintained for a minimum of five calendar years from the date of information collection and log entry at the VAFB facility. These records or logs shall be readily accessible and be made available to the District upon request. During this five year period, and pursuant to California Health & Safety Code Sections 42303 and 42304, such data shall be available to the District at VAFB within a reasonable time period after request by the District. This requirement applies to data required by this permit and archived by VAFB data-storage systems including but not limited to charts and manual logs. With the exception of processing monitoring data, prior to archiving any required data from the data-storage system, VAFB shall prepare written reports and maintain these reports in 3-ring binders at VAFB. Failure to make such data available within the noted period shall be a violation of this condition. Further, retrieval of historical or archived data shall not jeopardize the logging of current data.
- C.12 **Semi-Annual Compliance Verification Reports.** Twice a year, VAFB shall submit a compliance verification report to the District. Each report shall be used to verify compliance with the prior two calendar quarters. The first report shall cover calendar quarters 1 and 2 (January through June) and shall be submitted no later than September 1st. The second report shall cover calendar quarters 3 and 4 (July through December) and shall be submitted no later than March 1st. Each report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit (if applicable for that quarter). These reports shall be in a format approved by the District. All logs and other basic source data not included in the report shall be available to the District upon request. The second report shall also include an annual report for the prior four quarters. Pursuant to Rule 212, a completed District Annual Emissions Inventory questionnaire shall be included in the annual report or submitted electronically via the District Webpage. The report shall include the following information:

*Turbines/Pony Engines:*

- (i) The quarterly and annual operating hours of each of the pony starter engines.
- (ii) The total hours of turbine operations on natural gas per calendar quarter.
- (iii) The date of each pony starter engine oil change, the number of hours of operation since the last oil change, and the date and results of each oil analysis.
- (iv) The date of each pony starter engine air filter inspection and the number of hours of operation since the last air filter inspection. Indicate if the air filter was replaced as a result of the inspection.
- (v) The date of each pony starter engine's hose and belts inspection and the number of hours of operation since the last hose and belt inspection. Indicate if any hose or belt was replaced as a result of the inspection.
- (vi) The total natural gas consumption in MMscf of natural gas per calendar quarter. If the calendar quarter operating hours exceed a total of 2,908 turbine-hours, records shall include monthly fuel use in scf and monthly higher heating value of fuel in Btu/scf as stated on the fuel bill.

- (vii) The total hours of turbine operations and total number of turbines operating simultaneously on diesel fuel oil #2 per calendar quarter.
- (viii) The sulfur content, by weight percent, and the HHV of the diesel fuel oil #2 used in the turbines and in the pony starter engines as determined by the Operational Restrictions condition of this permit.
- (ix) The water-fuel ratio as determined from the most recent source test report.
- (x) On an annual basis, VAFB shall submit annual reports as required by the Fugitive I&M Plan pursuant to the Fugitive Inspection & Maintenance (I&M) Program condition of this permit.
- (xi) On an annual basis, VAFB shall provide the total sulfur content for the natural gas consumed at the SVPP.
- (xii) A Record of inspection and maintenance conducted pursuant to Subpart ZZZZ.

*External Combustion Equipment:*

- (xiii) The fuel use data required in the Recordkeeping Condition above. Units that track fuel use using the Default Rating Method are not required to submit an annual report for fuel use.
- (xiv) For units subject to Rule 361 tuning requirements, copies of all Rule 361 Tune-Up Reports as specified in Step 12 of Procedure A and/or Step 6 of Procedure B of the tuning Attachment to Rule 361.
- (xv) A copy of the Rule 361 Non-Operational Test Firing log.
- (xiv) Copies of the most recent fuel use meter calibration
- (xv) Results of the most recent source test reports
- (xvi) Results of the most recent propane sulfur content analysis.

*Stationary Emergency Standby Internal Combustion Engines:*

- (xvii) emergency use hours of operation;
- (xviii) maintenance and testing hours of operation;
- (xix) hours of operation for emission testing to show compliance with the ATCM {if specifically allowed for under this permit};
- (xx) hours of operation to comply with the requirements of NFPA 25/100 {if applicable};
- (xxi) hours of operation for all uses other than those specified above along with a description of what those hours were for;

(xxii) Records that demonstrate that the only fuel purchased and added to an emergency standby engine or engines, or to any fuel tank directly attached to an emergency standby engine or engines, meets the requirements of the ATCM.

(xxiii) Records of maintenance conducted pursuant to NESHAP ZZZZ.

#### *Hypergolic Storage Facilities*

(xxiv) The date and time span (hour and minutes) of each period of OVSS operation, the ambient minimum and maximum temperature during each activity, any noteworthy events, and any I&M Plan reporting requirements.

#### *SLC-2 Hypergolic Fuel Storage and Handling*

(xxv) The transfer dates and amounts of A-50 transferred from the ready storage vessel.

(xxvi) The transfer dates and amounts of oxidizer (N<sub>2</sub>O<sub>4</sub>) transferred from the ready storage vessel.

(xxvii) The transfer dates and amounts of A-50 transferred to or from the launch vehicle.

(xxviii) The transfer dates and amounts of oxidizer (N<sub>2</sub>O<sub>4</sub>) transferred to or from the launch vehicle.

(xxix) The dates and types of each launch activity and its resulting emissions (e.g., Activity L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub> - as defined in the PTO Modification Application 8658-01 dated January 21, 1994.

#### *Microwave Reactor Vessels*

(xxx) The dates that the MRS was used to control hypergolic fuel emissions.

(xxxi) The dates that the MRS was used to control hypergolic oxidizer emissions.

(xxxii) The dates and duration of any fault indicators during unloading operations, the fault message, the remedy taken to resolve the fault, and the resulting emissions of hypergolic fuel to atmosphere due to the fault.

(xxxiii) The NO<sub>x</sub> and ROC emissions from each satellite or launch/re-entry vehicle unloading event.

(xxxiv) The dates of periodic maintenance and details of any repairs or modifications made to the MRS.

#### *Spray Booths:*

(xxxv) Brand name, stock identification number and generic product class of each surface coating, associated solvent or material containing reactive organic compounds (ROC) used during each month.



(xxxvi) Gross monthly volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material listed in response to Condition 4.a of this permit and the resulting ROC emissions in units of pounds per month and pounds per day.  
(Note: Daily emissions = monthly emissions/21.7 days/month).

(xxxvii) Gross annual volume (gallons) usage, and ROC content (lbs per gallon or grams per liter, ROC) for each material listed in response to Condition 4.a of this permit and the resulting ROC emissions in (tons/year).

#### *Solvents*

(xxxviii) Gross monthly volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent) for each material listed in response to condition C.7(d)(ii) of this permit.

(xxxix) Gross annual volume/mass (gallons or pounds) usage and ROC content (pounds ROC per gallon of solvent or pounds ROC per pound of solvent,) for each material listed in response to condition C.7(d)(ii) of this permit.

(xl) Gross annual volume (gallons) usage of compounds containing tertiary-butyl acetate. The annual emissions are calculated by multiplying the gross annual volume usage of compounds containing tertiary-butyl acetate by the tertiary-butyl acetate content of the compound.

(xli) Gross annual volume usage (gallons) of any compound listed in District Rule 202.D.10.1.1 that exceeds one gallon per year.

(xlii) An updated version of the Shop Code List for the existing solvent use baseline, i.e., solvent use projects that existed prior to October 1, 2004. This list shall be updated each time an existing shop code is renumbered.

#### *Storage Tanks/H<sub>2</sub>S Scrubbers*

(xlili) The amount of fuel transferred out of the RSV and the date of the operation.

(xliv) ROC emissions (lbs/day) caused by each launch activity by date and type of such activity (e.g., Activity L1, L2, and L3 as shown in the Permit to Operate Application 8686 process flow diagram dated September 23, 1994).

(xlv) The gross JP-8 throughput for Tank 1702 on a monthly and yearly basis.

(xlvi) The gross JP-8 throughput for Tank 1703 on a monthly and yearly basis.

(xlvii) The monthly volume of groundwater produced and number of days of water production.

(xlviii) The results of inlet water H<sub>2</sub>S content tests (mg/liter).

(xlix) The date(s) that initial operation of replacement degasifier(s) occurs.

*Abrasive Blasting:*

- (l) The daily hours of abrasive blasting containment structure operation shall be recorded each day the equipment is operated.
- (li) The dates when the dust collection cartridges or filter bags, were replaced.
- (lii) The amount (pounds or tons) and type of abrasive material consumed daily and summarized monthly and annually.
- (liii) Operation start and end pressure differential readings from Control Device O&M Monitoring permit condition of this permit, if instituted.

*Landfill Gas*

- (liv) For each semi-annual calendar period, the total waste placed in the landfill during the period in tons, and the total solid waste in place at the landfill in tons.
- (lv) The calculated NMOC emission rate.

*Mobile Vehicle Fueling*

- (lvi) Gross Gasoline throughput on a monthly and annual basis.

- C.13 **Solvent Recovery Plan.** The permittees may submit a Solvent Recovery Plan to the District for the reclamation and off-site disposal of any reclaimed solvent. This Plan shall be approved by the District prior to the permittees reporting reclaimed solvent in the monthly emission reports. The Plan shall detail all procedures used for collecting, storing and transporting the reclaimed solvent (include example forms, waste hauler manifests, calculations and all other pertinent information/documents). Further, the ultimate fate of these reclaimed solvents must be stated in the Plan. The purpose of this Plan is to ensure that reclaimed solvents are accurately tracked and are not emitted into the atmosphere. Upon District approval, this Plan shall become an enforceable part of this permit.
- C.14 **Best Available Control Technology (BACT).** The permittee shall apply emission control technology and plant design measures that represent Best Available Control Technology (BACT) to the operation of the equipment/facilities described in Section 4.7. BACT shall be in place, and shall be operational at all times, for the life of the project. BACT related monitoring, recordkeeping and reporting requirements are defined in those specific permit conditions.
- C.15 **Offsets.** The permittee shall comply with the offset requirements of Regulation VIII by maintaining the Emission Reduction Credits identified in Table O and Table E. Emission reduction credits sufficient to offset the permitted quarterly NO<sub>x</sub>, ROC, and PM<sub>10</sub> net emissions increase from the stationary source shall be in place for the life of the project. The permittee shall provide replacement offsets and shall seek variance relief if the ERCs secured to the project are no longer in place.
- C.16 **Notification of Non-Compliance.** Owners or operators who have determined that they are operating their stationary diesel-fueled engine(s) in violation of the requirements specified in the ATCM shall notify the District immediately upon detection of the violation and shall be subject to District enforcement action.

- C.17 **Notification of Loss of Exemption.** Owners or operators of in-use stationary diesel-fueled CI engines, who are subject to an exemption specified in the ATCM from all or part of the requirements of the ATCM, shall notify the District immediately after they become aware that the exemption no longer applies and shall demonstrate compliance within 180 days after notifying the District.
- C.18 **Enrollment in a DRP/ISC - January 1, 2005.** Any stationary diesel CI engine rated over 50 bhp that enrolls for the first time in a Demand Response Program/Interruptible Service Contract (as defined in the ATCM) on or after January 1, 2005, shall first obtain an District Authority to Construct permit to ensure compliance with the emission control requirements and hour limitations governing ISC engines.
- C.19 **Temporary Engine Replacements - DICE ATCM.** Any reciprocating internal combustion engine subject to this permit and the stationary diesel ATCM may be replaced temporarily only if the requirements (a - f) listed herein are satisfied.
- a. The permitted engine is in need of routine repair or maintenance.
  - b. The permitted engine that is undergoing routine repair or maintenance is returned to its original service within 180 days of installation of the temporary engine).
  - c. The temporary replacement engine has the same or lower manufacturer rated horsepower and same or lower potential to emit of each pollutant as the permitted engine that is being temporarily replaced. At the written request of the permittee, the District may approve a replacement engine with a larger rated horsepower than the permitted engine if the proposed temporary engine has manufacturer guaranteed emissions (for a brand new engine) or source test data (for a previously used engine) less than or equal to the permitted engine.
  - d. The temporary replacement engine shall comply with all rules and permit requirements that apply to the permitted engine that is undergoing routine repair or maintenance.
  - e. For each permitted engine to be temporarily replaced, the permittee shall submit a completed *Temporary IC Engine Replacement Notification* form (Form ENF-94) within 14 days of the temporary engine being installed. This form may be sent hardcopy, or can be faxed (fax: 961-8801) to the District (Attn: Engineering Supervisor).
  - f. Within 14 days upon return of the original permitted engine to service, the permittee shall submit a completed *Temporary IC Engine Replacement Report* form (Form ENF-95). This form may be sent hardcopy, or can be faxed (fax: 961-8801) to the District (Attn: Engineering Supervisor).

Any engine in temporary replacement service shall be immediately shut down if the District determines that the requirements of this condition have not been met. This condition does not apply to engines that have experienced a cracked block (unless under manufacturer's warranty), to engines for which replacement parts are no longer available, or new engine replacements {including "reconstructed" engines as defined in the ATCM}. Such engines are subject to the provisions of New Source Review and the new engine requirements of the

ATCM.

C.20 **Permanent Engine Replacements.** Any E/S engine, firewater pump engine or engine used for an essential public service that breaks down and cannot be repaired may install a new replacement engine without first obtaining an ATC permit only if the requirements (a - e) listed herein are satisfied.

- a. The permitted stationary diesel IC engine is an E/S engine, a firewater pump engine or an engine used for an essential public service (as defined by the District).
- b. The engine breaks down, cannot be repaired and needs to be replaced by a new engine.
- c. The facility provides “good cause” (in writing) for the immediate need to install a permanent replacement engine prior to the time period before an ATC permit can be obtained for a new engine. The new engine must comply with the requirements of the ATCM for new engines. If a new engine is not immediately available, a temporary engine may be used while the new replacement engine is being procured. During this time period, the temporary replacement engine must meet the same guidelines and procedures as defined in the permit condition above (*Temporary Engine Replacements - DICE ATCM*).
- d. An Authority to Construct application for the new permanent engine is submitted to the District within 15 days of the existing engine being replaced and the District permit for the new engine is obtained no later than 180 days from the date of engine replacement (these timelines include the use of a temporary engine).
- e. For each permitted engine to be permanently replaced pursuant to the condition, the permittee shall submit a completed *Permanent IC Engine Replacement Notification* form (Form ENF-96) within 14 days of either the permanent or temporary engine being installed. This form may be sent hardcopy, or can be faxed (fax: 961-8801) to the District (Attn: Engineering Supervisor).

Any engine installed (either temporarily or permanently) pursuant to this permit condition shall be immediately shut down if the District determines that the requirements of this condition have not been met.

C.22 **Source Testing.** The permittee shall perform source testing as required by equipment-specific permit conditions. In addition, the following source test provisions shall apply:

- a. Source testing shall be performed on a schedule identified in Table 4, using the month of the first source test as the anniversary date. The permittee shall conduct source testing of air emissions and process parameters listed in Table 5 of this permit. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur.
- b. The permittee shall submit a written source test plan to the District for approval at least thirty (30) days prior to initiation of each source test. The source test plan shall be prepared consistent with the District's Source Test Procedures Manual (revised May 1990 and any subsequent revisions). The permittee shall obtain written District approval of the source test plan prior to commencement of source testing. The District shall be notified at least ten (10) calendar days prior to the start of source testing activity.

to arrange for a mutually agreeable source test date when District personnel may observe the test.

- c Source test results shall be submitted to the District within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall document the permittee's compliance status with BACT requirements, mass emission rates in Table 1 and applicable permit conditions, rules and NSPS (if applicable). All District costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by District Rule 210.
- d A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the operator shall seek and obtain District approval before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the District. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the District. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without the District's authorization shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the District by the close of the business day following the scheduled test day.

The timelines in (a), (b), and (c) above may be extended for good cause provided a written request is submitted to the District at least three (3) days in advance of the deadline, and approval for the extension is granted by the District..

**Ambient Air Quality Standard Violation.** If any ambient air quality monitor records an ambient air quality standard violation, a violation that can be reasonably attributed to operations of the SVPP, VAFB shall take immediate steps to modify or curtail the operational procedures to ensure that such a violation does not recur. The modified procedures must be provided to, and approved by, the District prior to continued operation of the facility under conditions that gave rise to the standard violation.

- C.23 **Ambient Air Quality Standard Violation.** If any ambient air quality monitor records an ambient air quality standard violation, a violation that can be reasonably attributed to operations of the SVPP, VAFB shall take immediate steps to modify or curtail the operational procedures to ensure that such a violation does not recur. The modified procedures must be provided to, and approved by, the District prior to continued operation of the facility under conditions that gave rise to the standard violation.

- C.24 **Ambient Monitoring Requirements.** VAFB shall operate the SVPP ambient air/pre-construction monitoring station for the life of the facility in accordance with the June 5, 1998 Memorandum of Agreement, or most recent revision, between VAFB and the

District. VAFB shall continuously monitor and report, at a minimum, the following ambient air quality and meteorological parameter data at the station:

Pollutants	Meteorological Parameters
Ozone	Wind Speed Average
Nitric Oxide	Wind Speed Resultant
Oxides of Nitrogen	Wind Direction Average
Nitrogen Dioxide	Wind Direction Resultant
Sulfur Dioxide	Ambient Temperature
Carbon Monoxide	Sigma Theta
PM <sub>10</sub>	
Total Hydrocarbons	

VAFB shall monitor and report this data in accordance with the District Air Quality and Meteorological Monitoring (AQMM) Protocol (October 1990, or subsequent updates, incorporated herein as reference), the District-approved site-specific Monitoring Plan (May 1992, or subsequent updates, incorporated herein as reference) and the District-approved Quality Assurance/Quality Control (QA/QC) Manual (May 1992, or subsequent updates, incorporated herein as reference).

Ambient and meteorological data shall conform to the time schedule specified in the District AQMM Protocol. All data, except PM<sub>10</sub>, shall be telemetered to the District on a real-time basis. If deemed necessary by the District, additional monitoring stations shall be installed by VAFB to monitor impacts from operation of the facility.

- C.25 **Ambient Monitoring Station Data Review and Audit Fee.** Per the Ambient Monitoring Requirements condition of this permit), VAFB shall operate the SVPP ambient monitoring station for the life of the facility and submit data to the District for quality assurance review and have the station audited quarterly by the District, or its contractor. In addition, VAFB shall reimburse the District for the cost of this service. Effective July 1, 1999, VAFB shall be assessed an annual fee, based on the District's fiscal year, collected semi-annually.

Pursuant to Rule 210 III.A, VAFB shall pay fees specified in Table 1 of permit condition C.28. The District shall use this fee to review and perform quality assurance review of the monitored data collected by VAFB and the contractor or staff costs to audit the monitoring equipment. This fee shall not cover any District time necessary to issue or respond to any Notice of Violation, which will be billed on a reimbursable basis. Fees shall be due and payable pursuant to governing provisions of District Rule 210, including CPI adjustments.

In the event that VAFB consistently requires services in excess of those assumed in the March 27, 1998, letter (Fixed Fee Proposal for Monitoring and DAS Costs), the Air Pollution Control Officer may move VAFB to a reimbursable method of payment, subject to the provisions of Rule 210. If the assumptions used to establish this fee substantially increase or decrease, District may revisit and adjust the fee based on documentation of cost of services. Adjusted fees will be implemented by transmitting a revised Table 1 of permit condition C.28, which will become an enforceable part of this permit.

The fees prescribed in this condition shall expire if and when the Board adopts an Ambient Monitoring Station Data Review and Audit Fee schedule and such fee becomes effective. Notwithstanding the above, the Data Review and Audit Fee shall not apply as long as the District operates the SVPP air monitoring station.

- C.26 **SVPP Ambient Air Monitoring Station Operation.** Per the Ambient Monitoring Requirements condition of this permit, VAFB shall operate and provide District the data from the SVPP ambient air monitoring station for the life of the SVPP project. VAFB has requested that the District operate the SVPP ambient air monitoring site and assess an annual fee for this service.

Pursuant to Rule 210 III.A, VAFB shall pay fees specified in Table 1 of this permit condition. The District shall use these fees to operate the station, purchase consumables, spare parts and fixed assets, and pay for maintenance of equipment, and vehicle operation per assumptions in the District's March 27, 1998 letter (Fixed Fee Proposal for Monitoring and DAS Costs), and in Agreement FA4610-08-P-0006 Air Quality Monitoring Station Vandenberg AFB CA 93437 dated October 29, 2007 (Agreement). Fees shall be due and payable pursuant to governing provisions of Rule 210, including CPI adjustments. VAFB shall be assessed an annual fee, based on the District's fiscal year, collected semi-annually or other interval mutually agreed to by VAFB and District. The District will operate the station according to standard District, CARB and EPA protocols. In the event that the operation of the station shows that the assumptions used to establish the fee were inaccurate or incomplete, or if costs associated with the fee substantially increase or decrease, the District may revisit and adjust the fee based on documentation of the actual cost of services. Adjusted fees will be implemented by transmitting a revised Table 1, which will become an enforceable part of the permit in the subsequent fiscal year.

The fee will cover costs for station operation, maintenance of equipment, equipment audits, data collection, review and submittal of data to EPA, and all future upgrades to equipment (including the fencing or the enclosure). VAFB will continue to have the permit requirement to operate the monitoring site for the life of the SVPP Project, however, VAFB will not be held responsible for the quality or quantity of the data collected at monitoring stations operated by the District.

VAFB has entered into an Agreement with the District which provides for, but is not limited to, access, utilities, (power, telephone and rubbish collection), terms for termination, indemnity and ownership of improvements. This Agreement is incorporated herein as an enforceable part of this permit.

If the District ceases to operate VAFB's SVPP monitoring site for any reason, then VAFB shall be responsible for operating this site.

**Table 1. Fees for Monitoring Station Operation**

<b>FEE DESCRIPTION</b> <sup>(a) (b)</sup>	<b>ANNUAL FEE</b>
SVPP Ambient Monitoring Station Operation Fee	\$98,974

- C.27 **Continuous Emission Monitoring.** VAFB shall continue the Continuous Emission Monitoring System (CEMS) program for the SVPP. The CEMS program shall be maintained in accordance with the CEMS Plan approved in June 2010 (and subsequent



District-approved modifications to the Plan). All CEMS installations shall conform to the most recent version of the District's Continuous Emission Monitoring Protocol (Protocol), including the requirement to submit a CEMS plan meeting the specification in the Protocol. Each CEMS and process monitor must achieve a minimum quarterly data recovery efficiency (DRE) of 90-percent based on actual hours of operation, except for each case in which a specific turbine unit operates less than 50 hours in a quarter. In the event a turbine operates 50 hours or less in a quarter, that turbine's CEMS must achieve the DRE shown in the table below.

<b>Turbine Hours of Operation in Quarter</b>	<b>% DRE Required</b>
50 +	90
25 - 49	80
10 - 24	50
6 - 9	25
0 - 5	0

- C.28 **Data Acquisition System (DAS).** The District's DAS shall receive and analyze continuous emissions and process data from the SVPP CEMS as specified in the Continuous Emissions Monitoring condition and ambient air monitoring and meteorological data as specified in the Ambient Monitoring Requirements condition of this permit. VAFB shall collect and transmit this data to the DAS in a manner specified by the District and shall telemeter this data to the DAS on a real-time basis (as specified in the 1992 Data Logger Specifications, or subsequent updates and incorporated herein as reference).
- C.29 **Data Telemetry.** VAFB shall install and operate telemetry equipment and software that will transmit monitoring data to the District as specified in the Continuous Emission Monitoring condition of this permit. This telemetry equipment will remain compatible with the DAS. Telemetry of operating and emission parameters shall be conducted through wireless technology via satellite/internet connectivity or communication lines reasonably free of interference and electronic noise that will affect the accurate transmission of data to the District or affect the District's ability to poll the CEMS on a real-time basis.
- C.30 **Data Acquisition System (DAS) Operation and Maintenance Fee.** VAFB shall connect certain Continuous Emission Monitors (CEMs) and all ambient and meteorological parameters to the District central data acquisition system (DAS). In addition, VAFB shall reimburse the District for the cost of operating and maintaining the DAS. VAFB shall be assessed an annual fee, based on the District's fiscal year, collected semi-annually.

Pursuant to Rule 210 III.A, VAFB shall pay fees specified in Table 1 of this permit condition. The District shall use these fees to operate, maintain, and upgrade the DAS in proper running order. Fees shall be due and payable pursuant to governing provisions of Rule 210, including CPI adjustments.

All ongoing costs and anticipated future capital upgrades will be District's responsibility and will be accomplished within the above stated DAS fee. This fee is intended to cover the annual operating budget and upgrades of the DAS and is intended to gradually phase District into a share of the DAS costs (as outlined in the March 27,

1998, letter - Fixed Fee Proposal for Monitoring and DAS Costs). In the event that the assumptions used to establish this fee substantially increase or decrease, District may revisit and adjust the fee based on documentation of cost of services. Adjusted fees will be implemented by transmitting a revised Table 1. The fees prescribed in this condition shall expire if and when the Board adopts a Data Acquisition System Operation and Maintenance Fee schedule and such fee becomes effective.

**Table 1. Fees for Data Review & Audit and DAS Operation and Maintenance**

<b>FEE DESCRIPTION</b> <sup>(a) (b)</sup>	<b>FEE</b>
<b>MONITORING STATION DATA REVIEW &amp; AUDIT FEE</b>	
Data review and audit activities associated with data submitted from any monitoring station listed in PTO 6117.	\$32,638 annually
<b>DAS ACQUISITION SYSTEM &amp; MAINTENANCE FEE</b>	
Per CEM, ambient or meteorological parameter required by permit to be transmitted real-time to the District Central Data Acquisition System.	\$1,820 annually

- (a) All fees shall be due and payable pursuant to the provisions of District Rule 210, including California Consumer Price Index adjustments.
- (b) The fees in this table are based on the District's March 27, 1998 letter (Fixed Fee Proposal for Monitoring and DAS Costs) and may be updated pursuant to the requirements of this permit.

**C.31 Documents Incorporated by Reference.** The documents listed below, including any District-approved updates thereof, are incorporated herein and shall have the full force and effect of a permit condition. These documents shall be implemented for the life of the project:

- *ENVVEST Compliance Plan. (ENVVEST) Compliance Plan* (July 29, 2008 and any District-approved updates).
- *Fuel Use Monitoring Plan (FUMP)* (April 12, 2010 and any subsequent District-approved updates).
- *SVPP Continuous Emissions Monitoring (CEMS) Plan* (June 2010 and any subsequent District-approved updates).
- *SVPP Fugitive Hydrocarbon Inspection and Maintenance Program* (October 23, 2002 and any subsequent District-approved updates).
- *Engine Inspection and Maintenance Plan* (for device ID 112253, March 9, 2009, updated on July 27, 2009 and any subsequent District-approved updates)

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AIR POLLUTION CONTROL OFFICER

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DATE

Notes: Reevaluation Due Date: December 2015

This permit supersedes permits listed in Attachment 10.11

Attachments:

10.1	Permitted Equipment
10.2	External Combustion Equipment Operational Requirements
10.3	Internal Combustion Equipment Operational Requirements
10.4	Coatings Equipment
10.5	Miscellaneous Equipment
10.6	Vapor Recovery System Testing Requirements
10.7	Health Risk Screening Results
10.8	Storage Tank Emissions
10.9	Abrasive Blasting Emission Calculations
10.10	Permits Incorporated into PTO 13968
10.11	Exempt Equipment
10.12	Fee Statement



## Attachment 10.2. External Combustion Equipment Operational Requirements

Bldg.	Device ID	Operator ID	Make	Model	Rule	Tune-Ups	Fuel Use Monitor	Low Use	Source Test	NOx ppmvd @3% O <sub>2</sub>	CO ppmvd @3% O <sub>2</sub>	Basis	Installed	NEI
836	111100	3872	Parker Boiler	T2160L	361	Biannual	Dedicated	No	No	30	400	361	25-Jun-08	Y
836	111101	3873	Parker Boiler	T2160L	361	Biannual	Dedicated	No	No	30	400	361	25-Jun-08	Y
836	111713	3049	Kewanee	L3W-125-G	361	Annual	Shared	No	No	30	400	361	1-Jan-94	N
980	111714	1024	Ajax	WGFD-2500	361	None	No Meter	No	Annual	NA	NA	361	1-Jan-92	N
1819	111722	3124	Industrial Boiler	PFDL50GAS	361	None	No Meter	No	No	NA	NA	361	1-Jan-98	N
1900	4117	114600	Camus DynaFlame	DFPH 4000	361	TBD	Shared	No	TBD	30	400	361	26-Mar-12	Y
1900	4118	114601	Camus DynaFlame	DFPH 4000	361	TBD	Shared	No	TBD	30	400	361	26-Mar-12	Y
1900	4119	114602	Camus DynaFlame	DFPH 4000	361	TBD	Shared	No	TBD	30	400	361	26-Mar-12	Y
1900	4120	114603	Camus DynaFlame	DFPH 4000	361	TBD	Shared	No	TBD	30	400	361	26-Mar-12	Y
2520	111723	3169	Ajax	WPG5000	361	None	Shared	No	No	NA	NA	361	1-Jun-97	N
2520	111724	3170	Ajax	WPG5000	361	None	Shared	No	No	NA	NA	361	1-Jun-97	N
3000	111712	3043	Ajax	MPG2500	361	Biannual	Shared	No	No	30	400	361	1-Jan-98	N
3000	111758	3044	Ajax	MPG2500	361	Biannual	Shared	No	No	30	400	361	1-Jan-98	N
6523	111779	3204	Parker	T2970L	361	Biannual	Dedicated	No	No	30	400	361	1-Jan-99	N
7000	111844	3934	Camus DynaFlame	DFNH-4500	361	Biannual	Shared	No	No	30	400	361	3-Dec-08	Y
7000	111845	3935	Camus DynaFlame	DFNH-4500	361	Biannual	Dedicated	No	No	30	400	361	3-Dec-08	Y
7025	3283	113533	Lochnivar	CBN1255	360	None	Shared	No	No	NA	NA	360	1-Jan-00	N
7025	3284	113534	Lochinvar	CBN1255	360	None	Shared	No	No	NA	NA	360	1-Jan-00	N
7425	111731	1052	Ajax	WGB-2250-D	361	None	Dedicated	No	No	NA	NA	361	1-Jan-83	N
7437	111757	3174	DeVilbis	ARG-42-1	361	None	No Meter	No	No	NA	NA	361	1-Dec-89	N
7523	4060	113920	Raypak	H7-2003	360	Annual	Shared	No	No	30	400	360	2-Apr-12	Y
7523	4061	113921	Raypak	H7-2003	360	Annual	Shared	No	No	30	400	360	2-Apr-12	Y
8510	112964	3996	Patterson-Kelley	N2000-MFD	360	Annual	Shared	No	No	30	400	360	30-Mar-10	Y
8510	112965	3997	Patterson-Kelley	N2000-MFD	360	Annual	Shared	No	No	30	400	360	30-Mar-10	Y
10711	111748	3888	Hastings Industries	SBD-227-32-3700	361	None	No Meter	No	No	NA	NA	361	1-Sep-92	N
12006	112251	3930	Aerco	BMK-2.0LN	360	Annual	Dedicated	No	No	30	400	360	24-Aug-09	Y
12006	112252	3931	Aerco	BMK-2.0LN	360	Annual	Dedicated	No	No	30	400	360	24-Aug-09	Y
13137	111749	1117	Raypak	H3-1125A-CCCRCAA	360	None	Dedicated	No	No	NA	NA	360	1-Jan-95	N

<b>Bldg.</b>	<b>Device ID</b>	<b>Operator ID</b>	<b>Make</b>	<b>Model</b>	<b>Rule</b>	<b>Tune-Ups</b>	<b>Fuel Use Monitor</b>	<b>Low Use</b>	<b>Source Test</b>	<b>NOx ppmvd @3% O<sub>2</sub></b>	<b>CO ppmvd @3% O<sub>2</sub></b>	<b>Basis</b>	<b>Installed</b>	<b>NEI</b>
13137	111750	1118	Raypak	H-3-1125A-CCCRCAA	360	None	Dedicated	No	No	NA	NA	360	1-Jan-75	N
13330	4099	113919	Parker Boiler Co.	40L	360	Annual	Shared	No	No	30	400	360	Pending	Y
13330	4100	113918	Parker Boiler Co.	40L	360	Annual	Shared	No	No	30	400	360	Pending	Y
13850	111753	3729	Lochinvar	IBN2000	360	Annual	Shared	No	No	30	400	360	1-Jan-05	N
13850	111754	3730	Lochinvar	IBN2000	360	Annual	Shared	No	No	30	400	360	1-Jan-05	N
13850	111755	3731	Lochinvar	IBN2000	360	Annual	Shared	No	No	30	400	360	1-Jan-05	N
23225	111756	1153	Ajax Boiler	WGGFD-4250	361	None	No Meter	No	No	NA	NA	361	1-Jan-92	N
23225	111874	1154	Ajax Boiler	WGGFD-4250	361	None	No Meter	No	No	NA	NA	361	1-Jan-92	N

### Attachment 10.3. Internal Combustion Engines Operational Requirements

Bldg.	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr	Installed	NEI
64	Oak Mountain	112818	3980	Cummins	QST30-G5	1490	Diesel	Emer. Gen.	8	50	17-Jun-10	Y
185	185 Honda Ridge Rd	107135	564	Caterpillar	3306BDI	314	Diesel	Emer. Gen.	24	30	Unknown	N
185	185 Honda Ridge Rd	107136	567	Caterpillar	3306BDI	314	Diesel	Emer. Gen.	24	30	Unknown	N
383	383 Lunar Rd	112688	3976	Cummins	QSL9-G2 NR3	364	Diesel	Emer. Gen.	8	50	15-Dec-09	Y
425	425 Arguello Rd	106942	3007	Detroit Diesel	10437305	230	Diesel	Emer. Gen.	20	20	Unknown	N
501	501 Perry Rd	106943	3008	Detroit Diesel	10637305	330	Diesel	Emer. Gen.	20	20	Unknown	N
511	511 CDT Access Rd	114491	4005	Cummins	QSX15-G9-NR2	755	Diesel	Transmitter E/S	24	100	2011	Y
525	525 Coast Rd	104867	818	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20	1-Jan-83	N
525	525 Coast Rd	104868	820	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20	1-Jan-83	N
525	525 Coast Rd	104869	821	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20	1-Jan-83	N
525	525 Coast Rd	104870	822	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20	1-Jan-83	N
525	525 Coast Rd	104871	823	Duetz	BF6L913	160	Diesel	Pony Starter Engine	20	20	1-Jan-83	N
529	529 Coast Road	114779	4297	Cummins	QST30-GN5-NR2	1,490	Diesel	Emer. Gen.	10	40	2012	Y
661	661 Santa Ynez Rd	107005	3009	Cummins	NT-855-G4	375	Diesel	Emer. Gen.	20	20	1-Jan-93	N
764	764 Napa Rd	107097	3540	Caterpillar	3456 DITA	685	Diesel	Emer. Gen.	24	50	19-Feb-04	N
14	830 Lompoc St	107000	3397	Cummins	KTA19-G3	685	Diesel	Emer. Gen.	20	20	1-Jan-05	N
830	830 Lompoc St	111766	3906	Cummins	QST30-G5	1490	Diesel	Emer. Gen.	8	50	13-Feb-09	Y
906	906 Mesa Rd	106944	3012	Detroit Diesel	71237406	750	Diesel	Emer. Gen.	20	20	Unknown	N
929	929 Wade Rd	111765	3927	Cummins	QSM11-G4	470	Diesel	Transmitter E/S	24	100	9-Nov-09	Y
968	968 Mesa Rd	107146	3024	Cummins	6BTA-5.9	244	Diesel	Emer. Water Pump	0.5	34	1-Jan-00	N
968	968 Mesa Rd	107145	3025	Cummins	6BTA-5.9	244	Diesel	Emer. Water Pump	0.5	34	1-Jan-00	N
980	980 Mesa Rd	107068	3553	Cummins	QSM11-G1	395	Diesel	Emer. Gen.	24	50	1-Oct-04	N
1559	1559 Tonto Rd	107006	3050	Caterpillar	3406B	534	Diesel	Emer. Gen.	20	20	1-Jan-96	N
1561	1561 Tonto Rd	107031	3411	Caterpillar	3406	449	Diesel	Emer. Gen.	20	20	1-Jan-05	N
1581	1581 Tangair Rd	107037	3315	Cummins	4B3.9	61	Diesel	Emer. Gen.	20	20	1-Jul-86	N
1594	1594 Tangair Rd	113003	4039	John Deere	6068HF485	315	Diesel	Emer. Gen.	8	50	Pending	Y
1604	1604 Tangair Rd	108889	3626	Detroit Diesel	6063-HV35	490	Diesel	Emer. Gen.	8	50	11-Oct-07	Y
1618	1618 Aero Rd	106999	3318	Cummins	KTA19-G4	755	Diesel	Emer. Gen.	20	20	1-Jan-01	N
1629	1629 Aero Rd	106998	3317	Cummins	KTA19-G4	755	Diesel	Emer. Gen.	20	20	1-Jan-01	N
1639	1639 Tangair Rd	106948	3390	Detroit Diesel	8123-7305	850	Diesel	Emer. Gen.	20	20	23-May-01	N
1735	325 Airfield Rd	113916	4109	Volvo	TAD1641GE	757	Diesel	Emer. Gen.	8	50	20-Sep-11	Y
1747	390 Airfield Rd	112689	3639	Cummins	QSX15-G9	755	Diesel	Emer. Gen.	24	50	12-Apr-10	Y
1748	1748 Airfield Rd	107032	642	Cummins	6BT-5.9	166	Diesel	Emer. Gen.	20	20	1-May-87	N
1762	1762 13th St	107007	3183	Onan	6A3.4-G1	50	Diesel	Emer. Gen.	20	20	1-Jan-01	N
1764	1764 13th St	106939	643	Caterpillar	D330	78	Diesel	Emer. Gen.	20	20	Unknown	N
1768	1768 Cross Rd	107085	3573	Cummins	QSX15-G9 NR2	750	Diesel	Emer. Gen.	24	50	1-Jul-04	N



Bldg.	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr	Installed	NEI
1829	1829 Rhea Rd	107141	645	Caterpillar	3208	270	Diesel	Emer. Water Pump	0.5	34	1-Jan-93	N
1829	1829 Rhea Rd	107142	649	Caterpillar	3208	270	Diesel	Emer. Water Pump	0.5	34	1-Jan-93	N
1916	1916 El Rancho Rd	110696	3791	Caterpillar	C15 DITA	563	Diesel	Emer. Gen.	24	50	2-May-08	Y
1917	1917 El Rancho Rd	107100	3548	Caterpillar	D3456	680	Diesel	Emer. Gen.	24	50	30-Jun-04	N
1919	1919 El Rancho Rd	111769	3921	John Deere	4045DF120	67	Diesel	Emer. Water Pump	24	50	30-Apr-08	Y
1937	1937 El Rancho Rd	107088	3329	John Deere	6081AF001C	251	Diesel	Emer. Gen.	24	30	15-Nov-01	N
1962	1962 Tow Rd	107067	3549	Cummins	6CTAA8.3G3	317	Diesel	Emer. Gen.	24	50	4-Oct-04	N
1964	1964 Sercho Rd	107066	3550	Cummins	6CTAA8.3G3	317	Diesel	Emer. Gen.	24	50	Unknown	N
1965	1965 Parquee Rd	110364	3790	Cummins	QSL9-G2	364	Diesel	Emer. Gen.	11	50	28-Apr-08	Y
1971	1971 Mina Rd	107065	3551	Cummins	6CTAA8.3G3	317	Diesel	Emer. Gen.	24	50	24-Jul-04	N
1972	1972 Mina Rd	107064	3552	Cummins	6CTAA8.3G3	317	Diesel	Emer. Gen.	24	50	Unknown	N
1980	1980 Oculito Rd	106399	3587	Cummins	6CTAA8.3-GS	299	Diesel	Emer. Gen.	8	50	2-May-06	Y
2305	2305 33rd St	107143	655	Caterpillar	3306D1	231	Diesel	Emer. Water Pump	0.5	34	1-May-94	N
2500	2500 Arizona Ave	107126	3181	Caterpillar	3508DITA	1200	Diesel	Emer. Gen.	24	30	1-May-99	N
2520	2520 Nevada Ave	110738	3814	Cummins	QST30-G5	1490	Diesel	Emer. Gen.	8	50	16-May-08	Y
3000	3000 29th St	107127	3420	Caterpillar	3508B-DITA	1592	Diesel	Emer. Gen.	24	30	1-Dec-01	N
6253	137 13th St	114383	4286	Cummins	QSK23-G7 NR2	1220	Diesel	Emer. Gen.	2	50	Pending	Y
6510	85 13th St	110735	3815	Cummins	QSL9-G3	399	Diesel	Emer. Gen.	24	50	30-Oct-08	Y
7425	386 10th St	112253	3936	Cummins	6TC8.3-G2	207	Diesel	Generator	7.5	600	11-Feb-09	Y
8195	1522 Nevada Ave.	113917	4116	Cummins	QSL9-G2 NR3	364	Diesel	Emer. Gen.	8	50	18-Aug-11	Y
8317	344 8th Street	114377	4123	Cummins	QSB7-G3 NR3	250	Diesel	Emer. Gen.	8	50	26-Mar-12	Y
8401	1521 Utah Ave	110201	3747	Cummins	QSX15-G9	755	Diesel	Emer. Gen.	3	50	12-Oct-07	Y
8510	1521 Iceland Ave	106946	3052	Caterpillar	3512STD	1592	Diesel	Emer. Gen.	20	20	1-Jun-90	N
10525	723 Nebraska Ave	107003	697	Cummins	MT-855-G4	375	Diesel	Emer. Gen.	20	20	4-Apr-89	N
10579	747 Nebraska Ave	107038	589	Cummins	KTTA19-G2	750	Diesel	Emer. Gen.	20	20	1-Jan-98	N
10660	1160 N. Mexico Ave	107004	698	Cummins	L634T-I/10148C	64	Diesel	Emer. Gen.	20	20	1-Jan-88	N
11439	1172 Iceland Ave	107034	699	Cummins	6BT-5.9	166	Diesel	Emer. Gen.	20	20	1-Jan-98	N
12000	867 Washington Ave	107087	3185	Cummins	6CTAA8.3-G1	317	Diesel	Emer. Gen.	24	30	1-Oct-99	N
12000	867 Washington Ave	114696	4268	Caterpillar	C27	1,141	Diesel	Emer. Gen.	8	50	2012	Y
12006	865 Washington Ave	112255	3928	Cummins	QSK60-G6 NR2	2922	Diesel	Emer. Gen.	24	50	10-Aug-09	Y
12006	865 Washington Ave	112256	3929	Cummins	QSK60-G6 NR2	2922	Diesel	Emer. Gen.	24	50	10-Aug-09	Y
13850	338 South Dakota Ave	107035	3061	Cummins	NT-855-G6	435	Diesel	Emer. Gen.	20	20	1-Jun-98	N
21150	150 Cotar Rd	107137	705	Detroit Diesel	80837405	540	Diesel	Emer. Gen.	24	30	Unknown	N
21203	203 Firefighter Rd	109236	3642	Cummins	QSX15-G9	755	Diesel	Transmitter E/S	8	100	15-May-07	Y
23201	201 Bishop Rd	111125	3582	Cummins	4BT3.9-G4	99	Diesel	Emer. Gen.	24	30	1-Sep-04	N
23209	209 Bishop Rd	107144	706	Cummins	6BTA5.9-F2	130	Diesel	Emer. Water Pump	0.5	34	1-May-92	N
NA	Various Locations	113280	4010	Cummins	QSB5-G3 NR3	145	Diesel	Emer. Gen.	8	50	8-Oct-11	Y
NA	Various Locations	113281	4011	Cummins	QSB5-G3 NR3	145	Diesel	Emer. Gen.	8	50	8-Oct-11	Y
NA	Various Locations	113282	4012	Cummins	QSB5-G3 NR3	145	Diesel	Emer. Gen.	8	50	8-Oct-11	Y

Bldg.	Location	Device ID	Operator ID	Make	Model	Rating (bhp)	Fuel Type	Engine Use	Hrs/Day	Hrs/Yr	Installed	NEI
NA	Various Locations	113283	4013	Cummins	QSB5-G3 NR3	145	Diesel	Emer. Gen.	8	50	8-Oct-11	Y
NA	Various Locations	133284	4014	Cummins	QSB5-G3 NR3	145	Diesel	Emer. Gen.	8	50	8-Oct-11	Y

#### Attachment 10.4. Coatings

Bldg.	Equipment Location	Device No.	Operator ID	Booth Filter Type	Spray Gun Cleaner	Booth Heater	lb/day	ton/year	Year of Installation	NEI
831	831 Clark St	105841	4174	Overspray Filters	Yes - OID 4130	No	11.2	0.55	33582	Y
875	875 Sweeney Rd	6096	1598	Overspray Filters	Yes - OID 4157	No	5.61	0.73	33577	Y
1800	150 Taurus Rd	6100	1600	Dry Overspray Filters	Yes - OID 4134	No	7.76	1.01	33581	N
7437	1556 N. Mexico Ave	6195	PSB01	Dry Overspray Filters	Yes - OID SK002	No	7.6	0.49	25204	N
8190	1580 Nevada Ave	105649	1603	Overspray Filters	No	Yes - OID 4106	9.36	1.21	34258	N
9320	334 6th St	105846	1591	Water Wash Overspray System	Yes - OID 4129	No	2.4	0.31	30339	N
9320	334 6th St	105847	1592	Overspray Filters	Yes - OID 4129	No	2.4	0.31	30339	N
9327	1346 N. Mexico Ave	113676	4096	Rear Exhaust Plenum	Yes - OID 4101	Yes	9.36	1.22	40588	Y
10711	433 Herado Ave	107930	1604	Dry Overspray Filters	Yes - OID 3632	Yes - OID 3888	11.26	1.47	34037	N
11438	1170 Iceland Ave	107924	1605	Water Wash Overspray System	Yes - OID 4133	No	24.85	3.23	28491	N
1620D	1620 Aero Rd	105785	1599	Water Curtain Overspray Control	Yes - OID 3581	No	12.23	0.88	33898	N

## Attachment 10.5. Miscellaneous Equipment

Bldg.	Equipment Location	Device No.	Operator ID	Device Type	Hourly Limit	Daily Limit	Quarterly Limit	Annual Limit	Units	Year of Installation	NEI
1701	173 Airfield Rd	113960	4147	Bulk Fuel Storage Facility; RP-1	NA	NA	NA	NA	gallon	1965	Y
1705	173 Airfield Rd	109898	1987	Bulk Fuel Storage Facility; JP-8	NA	NA	NA	2040000	gallon	1992	Y
1800	150 Taurus Rd	107916	3599	Abrasive Blasting Operations	NA	2	NA	500	ton	40460	N
5500	Various Delta II Locations	114257	VOC003	Miscellaneous Solvent Usage – Delta II	NA	24	NA	6336	lbs	<1999	N
5500	Various Locations	114277	HAZMART	Miscellaneous Solvent Usage	NA	24	NA	6336	Lbs	<1999	N
5500	Various Locations	110309	HAZMART2	Miscellaneous Solvent Usage	NA	22.73	500	2000	Lbs	38261	Y
7438	350 10th St	110180	2703	Abrasive Blasting Operations	NA	4.8	NA	300	ton	24103	N
9320	334 6th St	9890	1859	Abrasive Blasting Operations	NA	2.4	NA	250	ton	Unknown	N
9320	334 6th St	110229	3907	Abrasive Blasting Operations	NA	6.64	NA	1726	ton	39616	N
9505	180 Landfill Rd	TBD	3399	Landfill Gas	NA	NA	NA	NA	NA	14977	N
10726	442 Washington Ave	109369	434	Military Gasoline Dispensing Facility	NA	NA	NA	1200000	gallon	Unknown	Y
10726	442 Washington Ave	107919	3508	E-85 GDF with Phase 1 VRS	NA	NA	NA	1200000	gallon	2003	N
14400	1107 Utah Ave	9167	3415	AAFES Gasoline Dispensing Facility	NA	NA	NA	4800000	gallon	39094	Y
22397	Gate G21 on Highway 1	7602	345	Degasifier; H2S - Wells 5 & 6	NA	3000000	NA	NA	gallon	39338	N
22404	Gate G21 on Highway 1	7602	347	Degasifier; H2S - Wells 4 & 7	NA	3000000	NA	NA	gallon	39264	N
974/975	974 Mesa Rd	6926	4173	Scrubber (OVSS); Nitrogen Tetroxide	NA	62.16	NA	440	lbs	1991	Y
976/977	976 Mesa Rd	6925	4172	Scrubber (FVSS); Aerozine-50 Fuel	NA	23.04	NA	100	lbs	1991	Y
NA	Various Locations	113616	3417	Microwave Reactor System for Hypergolic Fuel Vapors	NA	NA	NA	2	event	38935	N
NA	Various Locations	113621	3418	Microwave Reactor System for Hypergolic Oxidizer Vapors	NA	NA	NA	2	event	38935	N
SLC-2	1623 Tangier Rd	6223	2067	#1 Scrubber; A-50; Emitting Device (AST)	NA	NA	NA	6400	gallon	36526	Y
SLC-2	1623 Tangier Rd	6223	2069	#2 Scrubber; Nitrogen Tetroxide; (AST)	NA	NA	NA	7550	gallon	36526	Y
SLC-2	1623 Tangier Rd	104469	2068	AST; Kerosene; 15,000 Gallons	NA	NA	NA	114000	gallon	36526	Y
SLC-2	1623 Tangier Rd	113065	4054	Fuel Scrubber System; A-50	NA	NA	NA	6400	gallon	40422	Y
SLC-2	1623 Tangier Rd	113079	4055	Oxidizer Scrubber System; N2O4	NA	NA	NA	7550	gallon	40422	Y

## **Attachment 10.6. Vapor Recovery System Testing Requirements**

## **VAPOR RECOVERY SYSTEM TESTING REQUIREMENTS FOR MVFF AT STATION NUMBER B-14400 AND BUILDING 10726 (TANKS #1&2)**

*Static Leak Decay Testing*      Bi-annual testing required. The permittee shall conduct and successfully pass Static Leak Decay testing two times per year (at least 165 days between tests, but not to exceed 195 days between tests). Routine testing shall consist of one maintenance test and at least one compliance test per year according to the test protocols approved by the ARB (TP-201.3).

*Vapor-to-Liquid Ratio Testing*      Bi-annual testing required. The permittee shall conduct and successfully pass Vapor-to-Liquid Ratio testing two times per year (at least 165 days between tests, but not to exceed 195 days between tests). Routine testing shall consist of one maintenance test and at least one compliance test per year according to the test protocols approved by the ARB. (Exhibit 5)

*Additional Phase I Tests*      Pressure/Vacuum Vent Valve. The permittee shall conduct and successfully pass the following Phase I VRS test during initial startup (only required for new or rebuilt stations): Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valve test (TP-201.E)

Annual testing required. The permittee shall conduct and successfully pass the following Phase I VRS test one time per year (at least 360 days between tests, but not to exceed 410 days between tests): Static Torque of Phase I Adapters (TP-201.1B). Routine testing shall consist of at least one compliance test per year.

Triennial testing required. The permittee shall conduct and successfully pass the following Phase I VRS test one time every three years (+/- 30 days of the three year test anniversary date): Pressure Integrity Check of the Drop Tube/Drain Valve Assembly (TP-201.1C/D). Routine testing shall consist of at least one compliance test every three years.

*Additional Healy Phase II EVR Tests*      Annual testing required. (a) Determination of Static Pressure Performance of the Healy Clean Air Separator (Exhibit 4); (b) Healy Vacuum Integrity Tests B-3 through B-6 (Side B of the Healy VP100 Test Form). Test B-5 shall be supplemented by a concurrent Side A/B test. Routine testing shall consist of at least one compliance test per year.

Initial startup tests required. In addition to the above tests, the following tests shall be performed during initial startup of the Healy Phase II EVR system: (a) Tank Manifold Tie-Test (TP-201.3C); (b) Dynamic Back Pressure Test (TP-201.4, Methodology 4). As an alternative test, the V/L test per Exhibit 5 may be performed in lieu of TP-201.4 provided that at least 2 gallons of product are introduced into the system through each dispenser riser prior to conducting the test; (c) maximum product flow rate test for

each dispenser (time the flow a gallon to determine the flow rate in units of gpm); (d) Healy Positive Pressure Leak Check Test A-3 (Side A of the Healy VP100 Test Form).

*Additional ISD  
Tests*

Annual testing required: ISD Operability Test Procedure (Exhibit 9).

The tests listed above, and any other VRS specific tests required in the applicable Executive Orders, are required to be performed by the permittee at initial startup and ongoing thereafter according to the time frames indicated. At any time, the APCD may require the permittee to perform any applicable ARB Test Procedure if operational VRS problems are observed.

All Static Leak Decay tests are subject to the following requirements: (a) the combined tank ullage shall be between 20% and 80% during the test; (b) no fuel drops shall occur within 4 hours prior to the test; (c) no other Static Leak Tests shall occur within 24 hours prior to the test.

Maintenance and Compliance test results (including initial failures) shall be documented by using SBCAPCD or ARB approved reporting forms<sup>8</sup>. Document all failures by detailing the cause(s) and corrective action(s) taken to eliminate the failure(s) on APCD Form ENF-99. "Successfully passing" a test means that all test results indicate compliance initially, without replacing, adjusting or repairing any equipment, part or item of the VRS. Example: If initial testing indicates a failure, and the equipment is adjusted, retested, and then passes, this is considered a failed test and shall be noted as such in the repair records and reporting forms.

Components and/or systems failing the Volume-to-Liquid Ratio or Static Leak Decay tests shall not be used to dispense or receive gasoline, unless the permittee contacts the APCD (961-8802, #2) to obtain Rule 505 "Breakdown" protection for the failed equipment for 24 hours. Components unable to be repaired within 24 hours must be removed from service unless a variance is obtained from the APD Hearing Board. All failed equipment shall be tagged as "out of order" until repaired.

The Compliance Tests must be arranged for in accordance with the applicable permit condition(s).

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<sup>8</sup> see the APCD's Gasoline Station Webpage at [www.sbcapcd.org/eng/compliance/gasoline/gasoline.htm](http://www.sbcapcd.org/eng/compliance/gasoline/gasoline.htm).

## VAPOR RECOVERY SYSTEM TESTING REQUIREMENTS FOR MVFF AT BUILDING 10726 (TANK #15)

- Phase I EVR Tests*      Testing required. These tests shall be performed per the listed ARB test procedure and the applicable Executive Order:
- (a) Annual test: Static Torque of Phase I Adapters per ARB TP-201.1B.
  - (b) Annual test: Static Leak Decay Test using ARB TP-201.3.
  - (c) Triennial test: Pressure Integrity Check of the Drop Tube/Drain Valve Assembly per ARB TP-201.1C/D.
  - (d) As requested by District: Drop Tube/Drain Valve Assembly Leak Test per ARB TP-201.1C (or TP-201.1D if equipped with a flapper valve).

*Time Frames Defined*      Annual tests shall occur at least 350 days between tests, but not to exceed 410 days between tests.

Triennial tests shall occur one time every three years (+/- 30 days of the three year test anniversary date).

The tests listed above, and any other VRS specific tests required in the applicable Executive Orders, are required to be performed by the permittee according to the time frames indicated. At any time, the District may require the permittee to perform any applicable ARB Test Procedure if operational VRS problems are observed.

All Static Leak Decay tests are subject to the following requirements: (a) the combined tank ullage shall be between 20% and 80% during the test; (b) no fuel drops shall occur within 4 hours prior to the test; (c) no other Static Leak Tests shall occur within 24 hours prior to the test.

Compliance test results (including initial failures) shall be documented by using District or ARB approved reporting forms<sup>9</sup>. Document all failures by detailing the cause(s) and corrective action(s) taken to eliminate the failure(s) on District Form ENF-99. "Successfully passing" a test means that all test results indicate compliance initially, without replacing, adjusting or repairing any equipment, part or item of the VRS. Example: If initial testing indicates a failure, and the equipment is adjusted, retested, and then passes, this is considered a failed test and shall be noted as such in the repair records and reporting forms.

Components and/or systems failing any of the above required tests or which have Vapor Recovery Equipment Defects per Exhibit 2 of the Executive Order shall not be used to dispense or receive gasoline until the system is repaired and successfully passes the required tests, unless the permittee contacts the District (961-8802, #2) to obtain Rule 505 "Breakdown" protection for the failed equipment for 24 hours. Components unable to be repaired within 24 hours must be removed from service unless a variance is obtained from the District Hearing Board. All failed equipment shall be tagged as "out of order" until repaired.

The compliance tests must be arranged for in accordance with the applicable permit condition(s).

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## **Vapor Recovery System Facility Repair Log and Testing Records**

The permittee shall maintain a Facility Repair Log and maintain the results of all VRS Testing Records as noted below:

1. **Facility Repair Log:** A Repair Logs that includes the information below. APCD Form ENF –99<sup>1</sup> shall be used. An alternative log form may be used if approved, in advance, by the APCD.
  - Date and time the problem was detected (e.g., component malfunction, defect, ISD Warning alarm, ISD Failure alarm, reconnection of breakaways)
  - Date and time the component was removed from service
  - Date and time the call for service was placed (including calls for service due to an ISD Warning alarm or ISD Failure alarm)
  - Date of actual service for which the component or defect was repaired or replaced (indicate if the ISD Failure alarm was “cleared”)
  - Name of the person performing the service and telephone number
  - Affiliation (company name) of the person performing the service
  - Indicate whether the service call was due to an ISD Warning alarm or ISD Failure alarm
  - Provide a short description of the service performed and list each component repaired, serviced, or removed, (include the component(s) manufacturer's (or re-manufacturer's) name and model number
  - Receipts for parts used in the repair and, if applicable, work orders, which shall include the name and signature of the person responsible for performing the repairs shall be made available to the APCD upon request
  - Any other information specifically required by the applicable Executive Orders
2. **Testing Records:** Records of all Maintenance and Compliance Tests, and any other VRS specific tests required in the applicable Executive Orders that include:
  - The date and start time of each test;
  - The type of test (specify ARB TP number);
  - Name(s), employer (or affiliation), address and phone number of the person(s) performing the tests;
  - Test data and calibration data for all equipment used;
  - Date and time each test is completed and the facility owner/operator is notified of the test results. For a test that fails, a description of the reason(s) for the test failure shall also be included; and
  - For a retest following a failed test, a description of the repairs performed prior to the retest (or a cross-reference to the Facility Repair Log above).
  - Completed CARB or APCD-approved reporting forms.

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<sup>1</sup> see the APCD’s Gasoline Station Webpage at [www.sbcapcd.org/eng/compliance/gasoline/gasoline.htm](http://www.sbcapcd.org/eng/compliance/gasoline/gasoline.htm)

## **Attachment 10.7. Health Risk Assessment Calculations**

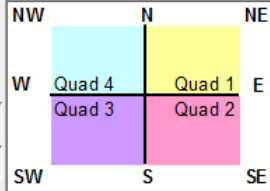
## DICE Risk Screening Tool Results: Device #113003

Diesel I.C. Engines (DICE) Screening Risk Tool			
<b>Project Information</b>			
Region: <input type="text"/>	Facility ID: <input type="text"/>	Unit #: <input type="text"/>	
Project #: <input type="text" value="ATC 13405"/>			
Date: <input type="text" value="3/10/2010"/>			
<b>Met Station</b>			
District	<input type="text" value="SBAPCD"/>		
Met Site	<input type="text" value="LOMPOC"/>		
Model Type	<input type="text" value="RURAL BD"/>		
Year:	<input type="text" value="88"/>		
<b>Engine Data</b>			
BHP:	<input type="text" value="315"/>	Convert to G/BHP	
% Load:	<input type="text" value="100"/>		
PM10 EF (g/BHP):	<input type="text" value="0.15"/>	Convert to G/KW	
Hours / Yr:	<input type="text" value="50"/>		
Lbs / Yr:	<input type="text" value="5.21"/>		
<input type="button" value="Update Emissions"/>			
<b>Receptor Data</b>			
Quad	<input type="text" value="QUAD 3"/>		
Distance(m)	<input type="text" value="6705.6"/>		
Miles: <input type="text"/>	Feet: <input type="text" value="22000"/>		
Yards: <input type="text"/>	10th Mi: <input type="text"/>		
<b>Cancer Risk</b>			
Resident Risk:		Maximum Res. Risk	
In a Million	<input type="text" value="3.04E-02"/>	<input type="text" value="9.06"/>	
Worker Risk:		Maximum Worker Risk	
In a Million	<input type="text" value="1.15E-02"/>	<input type="text" value="3.43"/>	
<input type="button" value="Calculate Risk"/>		Quad: <input type="text"/>	
<input type="button" value="Print Form"/>		Distance: <input type="text" value="0"/>	

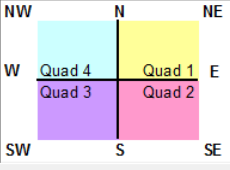
## DICE Risk Screening Tool Results: Device #113916

Diesel I.C. Engines (DICE) Screening Risk Tool			
<b>Project Information</b>			
Region: <input type="text"/>	Facility ID: <input type="text"/>	Unit #: <input type="text"/>	
Project #: <input type="text" value="13672"/>			
Date: <input type="text" value="6/8/2011"/>			
<b>Met Station</b>			
District	<input type="text" value="SBAPCD"/>		
Met Site	<input type="text" value="LOMPOC"/>		
Model Type	<input type="text" value="RURAL BD"/>		
Year:	<input type="text" value="89"/>		
<b>Engine Data</b>			
BHP:	<input type="text" value="757"/>	Convert to G/BHP	
% Load:	<input type="text" value="100"/>		
PM10 EF (g/BHP):	<input type="text" value="0.15"/>	Convert to G/KW	
Hours / Yr:	<input type="text" value="50"/>		
Lbs / Yr:	<input type="text" value="12.52"/>		
<input type="button" value="Update Emissions"/>			
<b>Receptor Data</b>			
Quad	<input type="text" value="QUAD 1"/>		
Distance(m)	<input type="text" value="4038.6"/>		
Miles: <input type="text"/>	Feet: <input type="text" value="13250"/>		
Yards: <input type="text"/>	10th Mi: <input type="text"/>		
<b>Cancer Risk</b>			
Resident Risk:		Maximum Res. Risk	
In a Million	<input type="text" value="2.34E-02"/>	<input type="text" value="2.37"/>	
Worker Adjustment Factor %		<input type="text" value="37.91"/>	
Worker Risk:		Maximum Worker Risk	
In a Million	<input type="text" value="8.87E-03"/>	<input type="text" value="0.90"/>	
<input type="button" value="Calculate Risk"/>		Quad: <input type="text" value="1"/>	
<input type="button" value="Print Form"/>		Distance: <input type="text" value="50"/>	

## DICE Risk Screening Tool Results: Device #113917

Diesel I.C. Engines (DICE) Screening Risk Tool			
<b>Project Information</b> Region: <input type="text"/> Facility ID: <input type="text"/> Unit #: <input type="text"/> Project #: <input type="text" value="13681"/> Date: <input type="text" value="6/8/2011"/>			
<b>Met Station</b> District: <input type="text" value="SBAPCD"/> Met Site: <input type="text" value="LOMPOC"/> Model Type: <input type="text" value="RURAL BD"/> Year: <input type="text" value="89"/>			
<b>Engine Data</b> BHP: <input type="text" value="364"/> % Load: <input type="text" value="100"/> PM10 EF (g/BHP): <input type="text" value="0.15"/> Hours / Yr: <input type="text" value="50"/> Lbs / Yr: <input type="text" value="6.02"/> <input type="button" value="Update Emissions"/>			
<b>Receptor Data</b> Quad: <input type="text" value="QUAD 1"/> Distance(m): <input type="text" value="4095.6"/> Miles: <input type="text"/> Feet: <input type="text" value="1343"/> Yards: <input type="text"/> 10th Mi: <input type="text"/>			
<b>Cancer Risk</b> Resident Risk: <input type="text" value="1.42E-02"/> In a Million Worker Adjustment Factor %: <input type="text" value="37.91"/> Worker Risk: <input type="text" value="5.39E-03"/> In a Million Calculate Risk <input type="button"/> Print Form <input type="button"/>			
Maximum Res. Risk: <input type="text" value="11.72"/> Maximum Worker Risk: <input type="text" value="4.44"/> Quad: <input type="text" value="1"/> Distance: <input type="text" value="25"/>			

## DICE Risk Screening Tool Results: Device #114377

Diesel I.C. Engines (DICE) Screening Risk Tool			
<b>Project Information</b> Region: <input type="text"/> Facility ID: <input type="text"/> Unit #: <input type="text"/> Project #: <input type="text"/> Date: <input type="text" value="11/28/2011"/>			
<b>Met Station</b> District: <input type="text" value="SBAPCD"/> Met Site: <input type="text" value="LOMPOC"/> Model Type: <input type="text" value="RURAL"/> Year: <input type="text" value="89"/>			
<b>Engine Data</b> BHP: <input type="text" value="250"/> % Load: <input type="text" value="100"/> PM10 EF (g/BHP): <input type="text" value="0.15"/> Hours / Yr: <input type="text" value="50"/> Lbs / Yr: <input type="text" value="4.13"/> <input type="button" value="Convert to G/BHP"/> <input type="button" value="Convert to G/KW"/>			
<b>Receptor Data</b> Quad: <input type="text" value="QUAD 1"/> Distance(m): <input type="text" value="3960.27"/> Miles: <input type="text"/> Feet: <input type="text" value="1299"/> Yards: <input type="text"/> 10th Mi: <input type="text"/>			
<b>Cancer Risk</b> Resident Risk: <input type="text" value="1.01E-02"/> In a Million Worker Adjustment Factor %: <input type="text" value="37.91"/> Worker Risk: <input type="text" value="3.82E-03"/> In a Million Calculate Risk <input type="button"/>			
Maximum Res. Risk: <input type="text" value="1.23"/> Maximum Worker Risk: <input type="text" value="0.47"/> Quad: <input type="text" value="1"/> Distance: <input type="text" value="75"/>			

DICE Risk Screening Tool Results: Device #114779

## Diesel I.C. Engines (DICE) Screening Risk Tool

### Project Information

Region:  Facility ID:  Unit #:   
 Project #:   
 Date:

### Met Station

District:   
 Met Site:   
 Model Type:   
 Year:

### Engine Data

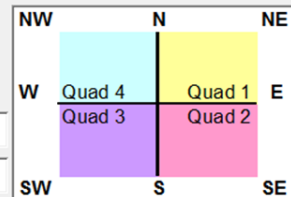
BHP:   
 % Load:   
 PM10 EF (g/BHP):   
 Hours / Yr:   
 Lbs / Yr:

### Receptor Data

Quad:   
 Distance(m):

Miles:  Feet:

Yards:  10th Mi:



### Cancer Risk

Resident Risk:		Maximum Res. Risk
In a Million	<b>0.63</b>	<b>2.25</b>
Worker Adjustment Factor %		<input type="text" value="37.91"/>
Worker Risk:		Maximum Worker Risk
In a Million	<b>0.24</b>	<b>0.85</b>
<input type="button" value="Calculate Risk"/>		Quad: <input type="text" value="1"/>
<input type="button" value="Print Form"/>		Distance: <input type="text" value="50"/>

# DICE Risk Screening Tool Results: Device #114491

Diesel I.C. Engines (DICE) Screening Risk Tool			
<b>Project Information</b>		<b>Receptor Data</b>	
Region: <input type="text"/>	Facility ID: <input type="text" value="0201"/>	Unit #: <input type="text"/>	Quad: <input type="text" value="QUAD 1"/>
Project #: <input type="text" value="13847"/>	Distance(m): <input type="text" value="3992.88"/>		
Date: <input type="text" value="4/3/2012"/>			
<b>Met Station</b>		Miles: <input type="text"/> Feet: <input type="text" value="13100"/>	
District	<input type="text" value="SBAPCD"/>	Yards: <input type="text"/>	10th Mi: <input type="text"/>
Met Site	<input type="text" value="LOMPOC"/>		
Model Type	<input type="text" value="RURAL"/>		
Year:	<input type="text" value="89"/>		
<b>Engine Data</b>		<b>Cancer Risk</b>	
BHP:	<input type="text" value="755"/>	Resident Risk:	Maximum Res. Risk
% Load:	<input type="text" value="100"/>	In a Million	<input type="text" value="4.61E-03"/>
PM10 EF (g/BHP):	<input type="text" value="0.015"/>	Worker Adjustment Factor %	<input type="text" value="37.91"/>
Hours / Yr:	<input type="text" value="100"/>	Worker Risk:	Maximum Worker Risk
Lbs / Yr:	<input type="text" value="2.50"/>	In a Million	<input type="text" value="1.75E-03"/>
<input type="button" value="Convert to G/BHP"/> <input type="button" value="Convert to G/KW"/>		<input type="button" value="Calculate Risk"/> <input type="button" value="Print Form"/>	<input type="text" value="Quad: 1"/> <input type="text" value="Distance: 200"/>
<input type="button" value="Update Emissions"/>			

## Attachment 10.8. Gasoline Tank Emission Calculations

ATTACHMENT 1

### Internal Floating Roof Tank Calculation

Permit to Operate 8688-R4

Tanks 1702 and 1703: POL Bulk Storage Facility (Bldg 1706) VAFB

#### 1. Storage Tank Data Entry

	Symbol	Value	Units	Notes
tank rim-seal system type	seal type	liq - rim secondary		Supplied by applicant
is the tank equipped with a dome roof?	dome	yes		ibid.
tank construction type	tank type	welded		ibid.
tank diameter	diameter	42.5	feet	ibid.
annual throughput	daily TP	48,571	barrels/year	ibid.
tank condition	condition	lite rust		ibid.

#### 2. Liquid Data Entry

	Symbol	Value	Units	Notes
liquid type	liquid type	jet kerosene		Supplied by applicant
product molecular weight	M <sub>v</sub>	130	lb/lb-mole	AP-42, Ch. 7, Table 7.1-2
vapor pressure	pressure	0.05000	psia	AP-42, Ch. 7, Table 7.1-2

#### 3. Resultant Computed Values

	Symbol	Value	Units	Notes
zero wind speed rim seal loss factor	K <sub>Ra</sub>	0.3	lb-mole/ft-year	AP-42, Ch. 7, Table 7.1-8, p. 7.1-89
wind speed dependent rim seal loss factor	K <sub>Rb</sub>	0.6	lb-mole/(mph) <sup>3</sup> ft-yr	ibid.
seal-related wind speed exponent	n	0.3	dimensionless	ibid.
average ambient wind speed at tank site	v	0.0	mph	dome-covered rooftop is not subject to wind
vapor pressure function	P*	0.00	dimensionless	AP-42, Ch. 7, Eq. 2-3, p. 7.1-19
product factor	K <sub>c</sub>	1	dimensionless	AP-42, Ch. 7, p. 7.1-20
clingage factor	C	0.0015	bb/1000 ft <sup>2</sup>	AP-42, Ch. 7, Table 7.1-10, p. 7.1-94
liquid density	W <sub>L</sub>	7.00	lb/gal	AP-42, Ch. 7, Table 7.1-2, p. 7.1-76
deck fitting loss factor	F <sub>f</sub>	561.65	lb-mole/year	AP-42, Ch. 7, Eq. 2-6, p. 7.1-21
number of columns	N <sub>c</sub>	1	dimensionless	AP-42, Ch. 7, Table 7.1-11, p. 7.1-94
effective column diameter	F <sub>c</sub>	1.0	feet	AP-42, Ch. 7, note 3, p. 7.1-21
vapor reactivity (fraction ROG)	R	1.000	dimensionless	CARB reactivity profiles & APCD Rule 102
deck seam loss per unit seam length factor	K <sub>D</sub>	0.00	lb-mole/ft-year	AP-42, Ch. 7, p. 7.1-22
deck seam length	S <sub>D</sub>	0	ft/ft <sup>2</sup>	AP-42, Ch. 7, Table 7.1-16, p. 7.1-99

#### Results

##### 1. Uncontrolled ROC Emissions (L<sub>T</sub>)

	lb/hour	lb/day	TPY
rim seal loss (L <sub>R</sub> ) =	0.000	0.004	0.001
withdrawal loss (L <sub>WD</sub> ) =	0.001	0.032	0.006
deck fitting loss (L <sub>F</sub> ) =	0.007	0.170	0.031
deck seam loss (L <sub>D</sub> ) =	0.000	0.000	0.000
L <sub>T</sub> =	0.01	0.21	0.04

Where:

$$L_T = L_R + L_{WD} + L_F + L_D$$

$$L_R = (K_{Ra} + K_{Rb} \times v^n) \times D \times P^* \times M_v \times K_c \times R$$

$$L_{WD} = [(0.943) \times Q \times C \times W_L/D] \times (1 + (N_c \times F_c / D))$$

$$L_F = F_f \times P^* \times M_v \times K_c$$

$$L_D = K_D \times S_D \times D^2 \times P^* \times M_v \times K_c$$



## LOADING RACK EMISSION CALCULATION PROGRAM

Attachment: 2  
 Company: VAFB  
 Facility: Bldg 1706 - POL  
 File Name: PTO 8688-R4

Reference: Loading Rack  
 Rack Type: Enter X as Appropriate

	S Factor
Submerged loading of a clean cargo tank	0.50
Submerged loading: Dedicated normal service	X 0.60
Submerged loading: Dedicated vapor balance service	1.00
Splash loading of a clean cargo tank	1.45
Splash loading: Dedicated normal service	1.45
Splash loading: Dedicated vapor balance service	1.00

Input data		Reference
S = Saturation Factor	0.60	See AP-42 Table 4.4-1
M = Molecular Weight	130	Crude Oil: Default = 50 lb/lb-mole
P = True Vapor Pressure (psia)	0.050	See AP-42 Table 7.1-2 (5th ed. - Jan. 95)
T = Liquid Temperature °R	520	60 °F + 460 = °R
R = Loading Rate (bbl/hr)	428.57	18,000 gallons (42 gallons = 1 bbl)
C = Storage Capacity (bbl)	917	38,500 gallons (42 gallons = 1 bbl)
A = Annual Production (bbl)	48,571	2,040,000 gallons (42 gallons = 1 bbl)
eff = Vapor Recovery Efficiency	0.00	Default = 0.95
ROC/THC = Reactivity	1.000	Crude Oil: Default = 0.885

HLPD = hours loading per day = (C/R) if < 24	2.14	hours/day
HLPY = hours loading per year = (A/R) =	113.33	hours/year
L <sub>L</sub> = Loading loss (lb/1000 gal) = 12.46 (S)(P)(M)/T =	0.0935	lb/1000 gal

### Total Uncontrolled Hydrocarbon Losses:

**Hourly**  
 THL<sub>H</sub> = (THL<sub>A</sub>/HLPY) = 1.68 lbs/hr

**Daily**  
 THL<sub>D</sub> = (THL<sub>H</sub>)(HLPD) = 3.60 lbs/day

**Annual**  
 THL<sub>A</sub> = (L<sub>L</sub>)(A)(42 gal/bbl)( 1 ton/2,000 lbs)(ROC/THC) = 0.10 TPY

### Total Controlled Hydrocarbon Losses:

**Hourly**  
 THL<sub>H</sub> = (THL<sub>A</sub>/HLPY)(1-eff) = 1.68 lbs/hr

**Daily**  
 THL<sub>D</sub> = (THL<sub>H</sub>)(HLPD)(1-eff) = 3.60 lbs/day

**Annual**  
 THL<sub>A</sub> = (L<sub>L</sub>)(A)(42 gal/bbl)( 1 ton/2,000 lbs)(1-eff)(ROC/THC) = tons/year = 0.10 TPY

Processed by: PES

Date: 06/04/07

#### Notes:

1. Data provided by the applicant
2. AP-42, (Chapter 5, 5th Edition), Table 5.2-1
3. If not otherwise provided, crude oil is assumed to be 50 lb/lb-mole.
4. If not otherwise provided, vapor pressure is calculated from CARB AB-2588 Guidelines, page 103, eq. 25
5. R is calculated by adding 460 to °F.
6. AP-42, (Chapter 7, 5th Edition), Table 7.1-2



## **Attachment 10.9 Abrasive Blasting Equipment Emission Calculations**

Location: VAFB - Building 7438  
Device #: 110180

**ABRASIVE BLASTING UNIT - SAND**

VARIABLES/ASSUMPTIONS

			<u>Basis</u>
EF	Emission Factor	82 lb PM/ton Sand	Note 1
A	Quantity of abrasive used per minute of operation =	20.00 lb/min	application
D	Daily Operating Schedule =	8 hr/day	application
DY	Operating Days Per Year	200 days/year	application
Y	Annual Operating Schedule =	500 hr/year	application
E	Cartridge Filter Efficiency =	0 % mass	VAFB
Q	Blower Rating =	0 scfm	application
	PM10 /PM Fraction =	1.0	APCD
TPD	Abrasive Used Per Day	4.80 tons/day	application
TPY	Abrasive Used Per Year	300 tons/year	application

CALCULATIONS

( I ) *Mass Emission Rates*

Hourly:	= (EF) * TPD * (1/HPD) * (100-E/100)	49.200 lbs/hr	PM and PM10
Daily:	= (Hourly Emissions) * HPD	393.600 lbs/day	PM and PM10
Annual:	= (EF) * (TPY) * (1/2,000) * (100-E/100)	12.300 tons/yr	PM and PM10

( II ) *Process Weight per Hour*

PWH:	= 2,000 * TPD / HPD	1,200.0 pounds per hour
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( III ) *Particulate Concentration* Note 2

Notes:

- (1) From Bay Area Air Quality Management District's permit handbook, Chapter 11 Abrasive Blasting (Confined) PM = PM10  
Emission factor based on usage rate of sand.
- (2) Particulate Concentration cannot be calculated because the equipment does not have an exhaust blower.
- (3) All assumptions and material throughput and composition data (if any) originates from data contained in either the original permit application(s) or from the supplement(s) to those application(s) thereof, where available and applicable.
- (4) APCD assumed efficiency of filter and PM10/PM ratio.

\\bscpd.org\share\Group\ENGR\W\P\VA\FB\Part 10\Part 70 PTO 13968\Emission Calculations\{ABS Calc.xls}\Sand Blaster

Location: VAFB - Building 9320  
Device #: 9890

**CABINET STYLE ABRASIVE BLASTING UNIT - ALUMINUM OXIDE w/ DUST FILTER BAGS**

VARIABLES/ASSUMPTIONS

			<u>Basis</u>
EF	Emission Factor	20 lb PM/ton AlO <sub>3</sub>	Note 1
A	Quantity of abrasive used per minute of operation =	10 lb/min	application
D	Daily Operating Schedule =	8 hr/day	application
Y	Annual Operating Schedule =	832 hr/year	application
E	Cartridge Filter Efficiency =	98 % mass	APCD
Q	Blower Rating =	5800 scfm	application
	PM10 /PM Fraction =	1.0	APCD

CALCULATIONS

(I) *Mass Emission Rates*

Hourly:	$[(EF) \cdot (A) \cdot (60) \cdot (1 - E)]$	0.120 lbs/hr	PM and PM10
Daily:	$[(EF) \cdot (A) \cdot (D \cdot 60) \cdot (1 - E)]$	0.960 lbs/day	PM and PM10
Annual:	$[(EF) \cdot (A) \cdot (Y \cdot 60) \cdot (1 - E)] / [(2000)]$	0.050 tons/yr	PM and PM10

(II) *Process Weight per Hour*

PWH:	$[A \cdot 60]$	600 pounds per hour
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(III) *Particulate Concentration*

PC:	$\{[(EF) \cdot (A) \cdot 7000 \cdot (1 - E)] / (Q)\}$	0.0024 gr/dscf	PM
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Notes:

- (1) From Bay Area Air Quality Management District's permit handbook, Chapter 11 Abrasive Blasting (Confined) PM = PM10 Emission factor based on usage rate of glass beads.
- (2) All assumptions and material throughput and composition data (if any) originates from data contained in either the original permit application(s) or from the supplement(s) to those application(s) thereof, where available and applicable.
- (3) APCD assumed efficiency of filter and PM10/PM ratio.

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Location: VAFB - Building 1800  
Device: #107916

**CABINET STYLE ABRASIVE BLASTING UNIT - SAND W/ DUST FILTER BAGS**

VARIABLES/ASSUMPTIONS

			<u>Basis</u>
EF	Emission Factor	82 lb PM/ton Sand	Note 1
A	Quantity of abrasive used per minute of operation =	8.33 lb/min	application
D	Daily Operating Schedule =	8 hr/day	application
DY	Operating Days Per Year	260 days/year	application
Y	Annual Operating Schedule =	2,080 hr/year	application
E	Cartridge Filter Efficiency =	95 % mass	VAFB
Q	Blower Rating =	16,000 scfm	application
	PM10 /PM Fraction =	1.0	APCD
TPD	Abrasive Used Per Day	2.00 tons/day	application
TPY	Abrasive Used Per Year	500 tons/year	application

CALCULATIONS

*( I ) Mass Emission Rates*

Hourly:	= (EF) * TPD * (1/HPD) * (100-E/100)	1.025 lbs/hr	PM and PM10
Daily:	= (Hourly Emissions) * HPD	8.200 lbs/day	PM and PM10
Annual:	= (EF) * (TPY) * (1/2,000) * (100-E/100)	1.025 tons/yr	PM and PM10

*( II ) Process Weight per Hour*

PWH:	= 2,000 * TPD / HPD	500.0 pounds per hour
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*( III ) Particulate Concentration*

PC:	= (Hourly Emissions) * (1/60) * 7,000 * (1/Q)	0.0075 gr/dscf	PM
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Notes:

- (1) From Bay Area Air Quality Management District's permit handbook, Chapter 11 Abrasive Blasting (Confined) PM = PM10  
Emission factor based on usage rate of sand.
- (2) All assumptions and material throughput and composition data (if any) originates from data contained in either the original permit application(s) or from the supplement(s) to those application(s) thereof, where available and applicable.
- (3) APCD assumed efficiency of filter and PM10/PM ratio.

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Location: VAFB - Building 9320  
Device: #110229

**CABINET STYLE ABRASIVE BLASTING UNIT - SAND w/ DUST FILTER BAGS**

VARIABLES/ASSUMPTIONS

			<u>Basis</u>
EF	Emission Factor	82 lb PM/ton Sand	Note 1
A	Quantity of abrasive used per minute of operation =	27.67 lb/min	application
D	Daily Operating Schedule =	8 hr/day	application
DY	Operating Days Per Year	260 days/year	application
Y	Annual Operating Schedule =	2,080 hr/year	application
E	Cartridge Filter Efficiency =	99 % mass	VAFB
Q	Blower Rating =	16,000 scfm	application
	PM10 /PM Fraction =	1.0	APCD
TPD	Abrasive Used Per Day	6.64 tons/day	application
TPY	Abrasive Used Per Year	1,726 tons/year	application

CALCULATIONS

*( I ) Mass Emission Rates*

Hourly:	= (EF) * TPD * (1/HPD) * (100-E/100)	0.681 lbs/hr	PM and PM10
Daily:	= (Hourly Emissions) * HPD	5.445 lbs/day	PM and PM10
Annual:	= (EF) * (TPY) * (1/2,000) * (100-E/100)	0.708 tons/yr	PM and PM10

*( II ) Process Weight per Hour*

PWH:	= 2,000 * TPD / HPD	1,660.0 pounds per hour
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*( III ) Particulate Concentration*

PC:	= (Hourly Emissions) * (1/60) * 7,000 * (1/Q)	0.0050 gr/dscf	PM
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Notes:

- (1) From Bay Area Air Quality Management District's permit handbook, Chapter 11 Abrasive Blasting (Confined) PM = PM10 Emission factor based on usage rate of sand.
- (2) All assumptions and material throughput and composition data (if any) originates from data contained in either the original permit application(s) or from the supplement(s) to those application(s) thereof, where available and applicable.
- (3) APCD assumed efficiency of filter and PM10/PM ratio.

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## Attachment 10.10. Permits Incorporated into Pt70 PTO 13968

PERMIT TYPE	PERMIT NO.	ISSUE DATE	DESCRIPTION	SUBJECT TO NSR
Reevaluation	6117-R8	11/04/2011	SVPP	Yes
Reevaluation	11668-R1	02/25/2009	Internal Combustion Engine	No
Reevaluation	11669-R2	05/22/2012	Internal Combustion Engine	No
Reevaluation	11671-R1	10/06/2010	Internal Combustion Engine	Yes
Reevaluation	11672-R1	01/06/2009	Internal Combustion Engine	No
Reevaluation	11673-R1	02/09/2009	Internal Combustion Engine	No
Reevaluation	11674-R1	12/17/2008	Internal Combustion Engine	Yes
Reevaluation	11675-R1	12/17/2008	Internal Combustion Engine	No
Reevaluation	11676-R1	12/17/2008	Internal Combustion Engine	No
Reevaluation	11677-R1	12/23/2008	Internal Combustion Engine	Yes
Reevaluation	11678-R1	12/23/2008	Internal Combustion Engine	No
Reevaluation	11679-R1	02/09/2009	Internal Combustion Engine	No
Reevaluation	11680-R1	10/06/2010	Internal Combustion Engine	No
Reevaluation	11772-R1	04/02/2010	Internal Combustion Engine	Yes
Reevaluation	11810-R1	01/06/2009	Internal Combustion Engine	No
Reevaluation	12133-R1	05/09/2011	Internal Combustion Engine	No
PTO	12205	10/13/2009	Command Transmitter E/S	No
Reevaluation	12330-R1	05/23/2011	Internal Combustion Engine	No
PTO	12356	07/10/2009	Internal Combustion Engine	No
PTO	12419	08/17/2009	Internal Combustion Engine	No
PTO	12454	07/27/2009	Internal Combustion Engine	No
PTO	12455	06/16/2010	Internal Combustion Engine	Yes
PTO	12793	07/10/2009	Internal Combustion Engine	No
PTO	12810	10/06/2010	Emergency Water Pump	No
Reevaluation	12820-R1	02/08/2012	Emergency Water Pump	No
PTO	12843	07/21/2010	Command Transmitter E/S	No
PTO	12916	12/03/2009	Internal Combustion Engine	No
PTO	12922	07/20/2010	Internal Combustion Engine	No
PTO	13223	10/29/2010	Internal Combustion Engine	No
PTO	13224	10/01/2010	Internal Combustion Engine	No
PTO	13271	04/15/2011	Internal Combustion Engine	No
ATC	13376	08/30/2010	Internal Combustion Engine	No
PTO	13405	01/10/2012	Internal Combustion Engine	No
ATC	13672	07/20/2011	Internal Combustion Engine	No
ATC	13681	07/20/2011	Internal Combustion Engine	No
ATC	13754	03/07/2012	Internal Combustion Engine	No
PTO	13847	05/24/2012	Command Transmitter E/S	No
ATC	13945	06/20/2012	Internal Combustion Engine	No
PTO	12640	04/28/2010	External Combustion	Yes
PTO	12658-01	06/17/2010	External Combustion	Yes
Reevaluation	12659-R1	10/25/2011	External Combustion	No
Reevaluation	12661-R1	10/25/2011	External Combustion	No
Reevaluation	12662-R1	11/10/2011	External Combustion	No
Reevaluation	12665-R1	11/10/2011	External Combustion	No
PTO	12666	09/19/2008	External Combustion	No
Reevaluation	12672-R1	11/10/2011	External Combustion	No
Reevaluation	12673-R1	11/10/2011	External Combustion	No
Reevaluation	12675-R1	11/10/2011	External Combustion	No



PERMIT TYPE	PERMIT NO.	ISSUE DATE	DESCRIPTION	SUBJECT TO NSR
PTO	12676	10/25/2011	External Combustion	No
PTO	12739	03/09/2010	External Combustion	No
PTO	12896	10/23/2009	External Combustion	Yes
PTO	12917	12/03/2009	External Combustion	Yes
PTO	13267	04/07/2011	External Combustion	No
PTO	13329	05/05/2011	External Combustion	Yes
PTO	13349	10/29/2010	External Combustion	No
ATC	13753	06/05/2012	External Combustion	Yes
Reevaluation	8350-R6	03/09/2011	Coatings	Yes
Reevaluation	8362-R7	03/09/2011	Coatings	No
Reevaluation	8433-R7	03/09/2011	Coatings	No
Reevaluation	8580-R5	03/09/2011	Coatings	Yes
Reevaluation	8629-R6	03/09/2011	Coatings	No
Reevaluation	8630-R7	10/28/2009	Coatings	No
Reevaluation	8914-R7	03/09/2011	Coatings	No
Reevaluation	8932-R5	03/09/2011	Coatings	No
Reevaluation	9088-R4	03/09/2011	Coatings	No
PTO	13493	07/06/2011	Coatings	Yes
Reevaluation	7987-R5	08/31/2007	Miscellaneous	Yes
Reevaluation	7988-R5	08/31/2007	Miscellaneous	Yes
Reevaluation	8658-R5	10/29/2009	Miscellaneous	Yes
Reevaluation	8686-R4	10/29/2009	Miscellaneous	Yes
Reevaluation	8688-R4	06/05/2011	Miscellaneous	Yes
Reevaluation	8766-R5	12/17/2010	Miscellaneous	No
Reevaluation	10155-R2	12/16/2011	Miscellaneous	No
Reevaluation	10156-R2	01/30/2012	Miscellaneous	No
PTO	10791	06/20/2007	Miscellaneous	Yes
Reevaluation	10867-R2	02/22/2011	Miscellaneous	No
Reevaluation	10900-R2	05/23/2011	Miscellaneous	No
Reevaluation	11143-R1	01/10/2012	Miscellaneous	Yes
PTO	12155	05/11/2011	Miscellaneous	No
PTO	12233	12/20/2007	Miscellaneous	Yes
PTO	12346	10/15/2010	Miscellaneous	No
PTO	13139	10/05/2011	Miscellaneous	No
PTO	13416	03/30/2011	Miscellaneous	Yes
PTO	13537	07/02/2012	Miscellaneous	No



## Attachment 10.11. Exempt Equipment

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
<b>Stationary</b>									
1577	1577 May Rd	632	Ford	CSG-6491-6005A	NA	77	LPG	Emer. Gen	202.F.1.d
1579	1579 June Rd	635	Hercules	D2300	0	45	Diesel	Emer. Gen	202.F.1.e
14300	135 Wyoming	765	Ford	LSG-4231-6005-F	NA	57	LPG	Emer. Gen	202.F.1.d
13675	108 Colorado Ave	766	Ford	CSG-6491-6005-F	NA	90	LPG	Emer. Gen	202.F.1.d
23215	215 Bishop Rd	770	Waukesha	L7042GL	NA	1466	NG	Emer. Gen	202.F.1.d
23215	215 Bishop Rd	771	Waukesha	L7042GL	NA	1466	NG	Emer. Gen	202.F.1.d
8310	351 8th St	869	Ford	LSG-4231-6005F	NA	50	LPG	Emer. Gen	202.F.1.d
1555	1555 Talo Rd	3015	Perkins	CM33531	0	38	Diesel	Emer. Gen	202.F.1.e
1905	1905 Orion Rd	3019	Perkins	CM-335	NA	38	Diesel	Emer. Gen	202.F.1.e
6523	137 13th St	3020	Cummins	6A3.4-G1	0	41	Diesel	Emer. Gen	202.F.1.e
8510	1521 Iceland Ave	3053	Generac	93A013955	NA	170	NG	Emer. Gen	202.F.1.d
SLC-3	759 Napa Rd	3054	Cummins	25DKAF	0	42	Diesel	Emer. Gen	202.F.1.e
51	51 Station Rd	3063	Ford	LSG87516005A	NA	104	LPG	Emer. Gen	202.F.1.d
856	856 Arguello Rd	3065	GM	5.7 L	NA	56	LPG	Emer. Gen	202.F.1.d
3250	3250 29th St	3067	Ford	CSG-4691-6005-F	NA	77	LPG	Emer. Gen	202.F.1.d
6670	1655 Utah Ave	3068	GM	7.4 L	NA	173	NG	Emer. Gen	202.F.1.d
863	863 Arguello Rd	3070	GM	3.0 L	NA	25	LPG	Emer. Gen	202.F.1.f
865	865 Arguello Rd	3072	Ford	CSG-6491-6005-A	NA	77	LPG	Emer. Gen	202.F.1.d
475	475 Comm Ave	3083	Cummins	GTA 28	NA	500	LPG	Emer. Gen	202.F.1.d
11477	1273 Utah Ave	3187	Lister	3600216LV	0	12	Diesel	Emer. Gen	202.F.1.e
1524	Tangier/Shuttle Rds	3190	Lister	VL51.9V6DZRB	0	19	Diesel	Emer. Gen	202.F.1.e
6601	1785 Utah Ave	3198	Ford	EK-CSG 649	NA	24	LPG	Emer. Gen	202.F.1.d
1758	1758 Airfield Rd	3199	GM	7.4L	NA	81	LPG	Emer. Gen	202.F.1.d
866	866 Arguello Rd	3278	Lister	PWG3474	NA	27	LPG	Emer. Gen	202.F.1.d
799	799 Coast Rd	3279	Ford	LSG-8751-6005A	NA	104	NG	Emer. Gen	202.F.1.d
6601	1785 Utah Ave	3396	Generac	7.4L	NA	173	LPG	Emer. Gen.	202.F.1.d
809	809 San. Ynez Ridge	3416	Ford	CSG-6491-6005-A	NA	76.5	LPG	Emer. Gen	202.F.1.d
1871	1871 Star Rd	3464	Cummins	GTA 855B	NA	354	LPG	Emer. Gen	202.F.1.d
1743	355 Airfield Rd	3567	Ford	LSG-8751-6005-A	NA	173	LPG	Emer. Gen	202.F.1.d
6819	6819 Missile Loop	3597	Kubota	F2803-BG-ES	4KBXL02.8BCC/I	45	Diesel	Emer. Gen	202.F.1.e
518	518 CDT Access Rd	3603	Kubota	F2803-BG-ES	4KBXL02.8BCC/II	44.8	Diesel	Emer. Gen	202.F.1.e
23160	160 Grant Rd	3605	Kubota	F2803-BG-ES	4KBXL02.8BCC/II	44.8	Diesel	Emer. Gen	202.F.1.e
1737	340 Airfield Rd	3804	Cummins	LPW4	0	18	Diesel	Emer. Gen	202.F.1.e
490	490 Arguello Rd	3914	Kubota	F2803-BG-ES02	0	44.8	Diesel	Emer. Gen	202.F.1.e
SLC-3	759 Napa Rd	3932	Kabota Cummins	F2803-BG-ES	5KBXL02.8BCC/II	42	Diesel	Emer. Gen	202.F.1.e
7	127 Colorado Ave	3952	Mitsubishi	SDS8450	NA	95	LPG	Emer. Gen	202.F.1.d

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
1740	359 Airfield Rd	4003	Ford	ESG642	NA	77	LPG	Emer. Gen	202.F.1.d
1530	1530 Rollo Rd	4067	Cummins	GGMC-7530039	NA	55	LPG	Emer. Gen	202.F.1.d
1841	1841 Rhea Rd	4113	Kubota	D1703	I-IV	25	Diesel	Emer. Gen	202.F.1.e
1501	1501 Tangair Rd	4177	John Deere	3029DF120	0	47	Diesel	Emer. Gen	202.F.1.e
<b>Portable</b>									
NA	Various Locations	591	Onan	DJC	0	22	Diesel	Generator	202.F.1.e
NA	Various Locations	592	Onan	DJC	0	22	Diesel	Generator	202.F.1.e
NA	Various Locations	593	Onan	DJC	0	22	Diesel	Generator	202.F.1.e
NA	Various Locations	594	Onan	DJC	0	22	Diesel	Generator	202.F.1.e
NA	Various Locations	595	Onan	DJC	0	22	Diesel	Generator	202.F.1.e
NA	Various Locations	596	Onan	DJC	0	22	Diesel	Generator	202.F.1.e
10711	433 Herado Ave	762	Teledyne Continental	TMD-20	0	32.5	Diesel	Generator	202.F.1.e
3000	3000 29th St	3047	Onan	12.5JC18R	0	30	Gasoline	Generator	202.F.1.f
3000	3000 29th St	3180	Onan	336782725DKAF	YJDXL06.8014	35	Diesel	Generator	202.F.1.e
8425	1411 Utah Ave	3193	Isuzu	C240	0	30	Diesel	Generator	202.F.1.e
8425	1411 Utah Ave	3194	Isuzu	C240	0	30	Diesel	Generator	202.F.1.e
1620C	1620 Aero Rd	3316	Teledyne Cont.	TM 20	0	38	Gasoline	Generator	202.F.1.c
10711	433 Herado Ave	3320	Kohler	CH20QS	0	20	Gasoline	Compressor	202.F.1.f
9320	334 6th St.	3328	Perkins	3.1524	NA	42	Diesel	Other	202.F.1.e
12000	867 Washington Ave	3394	Onan	DNAE 4493833	0	16	Diesel	Generator	202.F.1.e
1755	400 Airfield Rd	3421	Pacific Consol.	SGNSC	0	49	Diesel	Nitrogen Cart	202F.1.e
12000	867 Washington Ave	3558	Onan	DNAE 4493833	0	16	Diesel	Generator	202.F.1.e
12000	867 Washington Ave	3559	Onan	DNAE 4493833	0	16	Diesel	Generator	202.F.1.e
5425	2010 20th St	3602	Kawaski	BWT 200	0	23	Gasoline	Maint. Equip	202.F.1.c
525	525 Coast Rd	3992	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Compressor	202.F.1.e
525	525 Coast Rd	3993	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Compressor	202.F.1.e
525	525 Coast Rd	3994	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Compressor	202.F.1.e
525	525 Coast Rd	3995	John Deere	4024TF281	8JDXL02.4074/IV	49	Diesel	Compressor	202.F.1.e
525	525 Coast Rd	4021	John Deere	4024TF281	IV	49	Diesel	Compressor	202.F.1.e
525	525 Coast Rd	4022	John Deere	4024TF281	IV	49	Diesel	Compressor	202.F.1.e
525	525 Coast Rd	4023	John Deere	4024TF281	IV	49	Diesel	Compressor	202.F.1.e
525	525 Coast Rd	4024	John Deere	4024TF281	IV	49	Diesel	Compressor	202.F.1.e
3000	3000 29th St	4072	Kubota	D1503-M-BG-ET02e	9KBXL01.5FCC/IV	24	Diesel	Generator	202.F.1.e
3000	3000 29th St	4073	Kubota	D1503-M-BG-ET02e	9KBXL01.5FCC/IV	24	Diesel	Generator	202.F.1.e
NA	Various Locations	4161	DEUTZ	F2L511D	0	28.5	Diesel	Generator	202.F.1.e
NA	Various Locations	4162	DEUTZ	F2L511D	0	28.5	Diesel	Generator	202.F.1.e
NA	Various Locations	4163	DEUTZ	F2L511D	0	28.5	Diesel	Generator	202.F.1.e
SLC-2	Various Locations	688	John Deere	4329TF	0	109	Diesel	Compressor	PERP - RN 102410
NA	Various Locations	3087	Caterpillar	3306B	WCPXL10.5MRF/I	220	Diesel	Compressor	PERP - RN 102413
9320	334 6th St.	3326	Cummins	B3.9-C	1CEXL0239ACA	116	Diesel	Compressor	PERP - RN 114613
9320	334 6th St.	3327	Cummins	B3.9-C	1CEXL0239ACA	116	Diesel	Compressor	PERP - RN 114614

Building Number	Equipment Location	Operator ID	Make	Model	EPA Family Name/Tier	Rating (bhp)	Fuel	Category	Basis for Exemption
3000	3000 29th St	3391	John Deere	6068TF150	YJDXL06.8014/I	150	Diesel	Generator	PERP - RN 114872
NA	Various Locations	3496	Isuzu	A-4JG1	2SZXL03.1CNC/I	50	Diesel	Generator	PERP - RN 117921
533	533 Coast Rd	3501	John Deere	4045TF150	2JDXL06.8014/I	115	Diesel	Compressor	PERP - RN 117353
533	533 Coast Rd	3502	John Deere	4045TF150	2JDXL06.8014/I	115	Diesel	Compressor	PERP - RN 117354
533	533 Coast Rd	3503	John Deere	4045TF150	2JDXL06.8014/I	115	Diesel	Compressor	PERP - RN 117355
533	533 Coast Rd	3504	John Deere	4045TF150	2JDXL06.8014/I	115	Diesel	Compressor	PERP - RN 117356
533	533 Coast Rd	3505	John Deere	4045TF150	2JDXL06.8014/I	115	Diesel	Compressor	PERP - RN 117357
533	533 Coast Rd	3506	John Deere	4045TF150	2JDXL06.8014/I	115	Diesel	Compressor	PERP - RN 117358
3000	3000 29th St	3516	Duetz	BF4M1013E	2DZXL07.1005/I	119	Diesel	Generator	PERP - RN 120369
3000	3000 29th St	3517	Duetz	BF4M1013E	2DZXL07.1005/I	119	Diesel	Generator	PERP - RN 120370
NA	Various Locations	3546	Cummins	B.3.3	1CEXL03.3AAB/I	85	Diesel	Wood Chipper	PERP - RN 123539
3000	3000 29th St	3742	Isuzu	BB-4JGIT	5SZXL03.1GTB/II	55	Diesel	Generator	PERP - RN 132820
525	525 Coast Rd	3806	Isuzu	BB-4JG1T	6SZXL03.1GTB/II	65	Diesel	Generator	PERP - RN 146504

3000	3000 29th St	3912	Cummins	QSC 8.3	7CEXL0505AAE/III	260	Diesel	Generator	PERP - RN 141898
3000	3000 29th St	3913	Cummins	QSC 8.3	7CEXL0505AAEE/I	260	Diesel	Generator	PERP - RN 141899
3000	3000 29th St	3949	Duetz	TCD2013L042V	8DZXL04.8064/III	172	Diesel	Generator	PERP - RN 144722
3000	3000 29th St	3950	Duetz	TCD2013L042V	8DZXL04.8064/III	172	Diesel	Generator	PERP - RN 144723
NA	Various Locations	3979	Duetz	BF4M1012C	XDZXL04.8006/I	91	Diesel	Generator	PERP - RN 117705
3000	3000 29th St	3982	Isuzu	BU-4JJ1T	8SZXL03.0UTB/IV	57	Diesel	Generator	PERP - RN 146503
NA	Various Locations	3985	John Deere	6068HF485	8JDXL06.8101/III	315	Diesel	Generator	PERP - RN 146695
NA	Various Locations	4015	John Deere	4045TF280	9JDXL04.5112/III	80	Diesel	Water Pump	PERP - RN 149555
NA	Various Locations	4016	John Deere	4045TF280	9JDXL04.5112/III	80	Diesel	Water Pump	PERP - RN 149556
NA	Various Locations	4017	John Deere	4045TF280	9JDXL04.5112/III	80	Diesel	Water Pump	PERP - RN 149557
NA	Various Locations	4018	John Deere	4045TF280	9JDXL04.5112/III	80	Diesel	Water Pump	PERP - RN 149558
525	525 Coast Rd	4037	John Deere	4045HF285	8JDXL06.8105/III	139.5	Diesel	Air Compressor	PERP - RN 152132
9320	334 6th St	4095	Caterpillar	C4.4	APKXL04.4NJ1/III	130	Diesel	Air Compressor	PERP - RN 153516
9320	334 6th St	4097	Caterpillar	C4.4	APKXL04.4NJ1/III	130	Diesel	Air Compressor	PERP - RN 153517
8425	1411 Utah Ave	4124	Isuzu	BH-6UZ1X	ASZXL09.8HXB/III	349	Diesel	Generator	PERP - RN 154640
10715	416 Washington.	4294	Caterpillar	C2.2	BH3XL2.22N4T	60	Diesel	Other	PERP - RN 157631
533	Various Locations	4306	John Deere	6068HF485T	AJDXL06.8115	315	Diesel	Generator	PERP - RN 158387
NA	Various Locations	4307	Cummins	QSC	ACEXL0505AAE	260	Diesel	Air Compressor	PERP - RN 158388
Lag. Peak	Various Locations	4076	Isuzu	BJ-4JJ1X	ASZXL03.0JXB	97.9	Diesel	Generator	PERP RN 154642
Lag. Peak	Various Locations	4077	Isuzu	BJ-4JJ1X	ASZXL03.0JXB	97.9	Diesel	Generator	PERP RN 154641
Flightline	Various Locations	ICE02	Garrett	GTCP85-180C	NA	100	JP-8	Aircraft ICE Strt.	TSE - RN 101091
Various	Various Locations	549	Cummins	6BT5.9	0	166	Diesel	Generator	TSE - RN 101091
Various	Various Locations	551	Cummins	6BT5.9	0	166	Diesel	Generator	TSE - RN 101091
Various	Various Locations	552	Cummins	6BT5.9	0	166	Diesel	Generator	TSE - RN 101091
Various	Various Locations	554	Cummins	6BT5.9	0	166	Diesel	Generator	TSE - RN 101091

NA	Various Locations	558	Duetz	F4L912	0	80	Diesel	Air Compressor	TSE - RN 101091
Various	Various Locations	684	Cummins	6BT5.9	0	166	Diesel	Generator	TSE - RN 101091
Various	Various Locations	694	Cummins	6BT5.9	0	166	Diesel	Generator	TSE - RN 101091
Various	Various Locations	695	Cummins	6BT5.9	0	166	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	696	Cummins	NT855G3	0	390	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	708	Caterpillar	5R5635 (MEP-007B)	0	148	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	724	Cummins	NT-855-G3	0	390	Diesel	Generator	TSE - RN 101091
Flightline	Various Locations	2055	Garrett	GTCP85-180C	NA	100	JP-8	Aircraft ICE Strt.	TSE - RN 101091
8425	1411 Utah Ave	3027	Cummins	NT-855-63 (MEP-009B)	0	390	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	3031	Allis Chalmers	3500A	0	121	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	3035	John Deere	6059T	0	80	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	3036	John Deere	6059T	0	80	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	3037	John Deere	6059T (MEP-806A)	0	80	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	3038	John Deere	6059T (MEP-806A)	0	80	Diesel	Generator	TSE - RN 101091
7501	172 10th St	3419	John Deere	4045DF150	I	80	Diesel	Air Compressor	TSE - RN 101091
Flightline	Various Locations	3613	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator	TSE - RN 101091
Flightline	Various Locations	3614	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator	TSE - RN 101091
Flightline	Various Locations	3615	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator	TSE - RN 101091
Flightline	Various Locations	3616	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator	TSE - RN 101091
Flightline	Various Locations	3617	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator	TSE - RN 101091
Flightline	Various Locations	3618	Hollingsworth	A/M32A-86D	0	148	Diesel	Generator	TSE - RN 101091
12000	867 Washington	3644	John Deere	MEP-806B	0	134	Diesel	Generator	TSE - RN 101091
7425	386 10th St	3735	John Deere	3029TF270D	0	64	Diesel	Air Compressor	TSE - RN 101091
7425	386 10th St	3736	John Deere	3029TF270D	0	64	Diesel	Air Compressor	TSE - RN 101091
12000	867 Washington	3808	Yanmar	40E0RZD	0	82	Diesel	Generator	TSE - RN 101091
12000	867 Washington	3809	Yanmar	40E0RZD	0	82	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	3817	Caterpillar	3126	III	216	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	3818	Caterpillar	3126	III	216	Diesel	Generator	TSE - RN 101091
8314	374 8th St	3820	John Deere	3029TF270D	0	56	Diesel	Generator	TSE - RN 101091
8314	374 8th St	3821	John Deere	3029TF270D	0	56	Diesel	Generator	TSE - RN 101091
10717	430 Washington	3889	John Deere	4045DF150	0	54	Diesel	Compressor	TSE - RN 101091
10717	430 Washington	3892	John Deere	4045DF150B	2JDXL06.8046	78	Diesel	Compressor	TSE - RN 101091
10717	430 Washington	3893	John Deere	4045TF275	0	102	Diesel	Sweeper Engine	TSE - RN 101091
10717	430 Washington	3894	John Deere	4045TF270	5JDXL04.5083	99	Diesel	Sweeper Engine	TSE - RN 101091
10717	430 Washington	3898	John Deere	3105	0	67.5	Diesel	Water Pump	TSE - RN 101091
10717	430 Washington	3900	John Deere	4039DF001	0	80	Diesel	Water Pump	TSE - RN 101091
10717	430 Washington	3901	John Deere	4039DF001	0	80	Diesel	Water Pump	TSE - RN 101091
10715	416 Washington	3902	John Deere	4045DF150B	3JDXL04.5060	78	Diesel	Compressor	TSE - RN 101091
NA	Various Locations	3903	John Deere	3029TF270D	4JDXL02.9050/II	64	Diesel	Generator	TSE - RN 101091
81	81 Station Rd	3946	Isuzu	A-6BGIT	0	155	Diesel	Generator	TSE - RN 101091
12000	867 Washington	4008	John Deere	MEP-806B	TBD	134	Diesel	Generator	TSE - RN 101091
12000	867 Washington	4009	John Deere	MEP-806B	TBD	134	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	4034	Onan	DN4M-1	III	24.1	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	4035	Onan	DN4M-1	0	24.1	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	4036	Onan	DN4M-1	0	24.1	Diesel	Generator	TSE - RN 101091
12000	867 Washington	4112	John Deere	MEP-806B	TBD	134	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	4143	John Deere	MEP 805B	I	215	Diesel	Generator	TSE - RN 101091
8425	1411 Utah Ave	4154	John Deere	MEP 805B	I	215	Diesel	Generator	TSE - RN 101091

10717	430 Washington	4287	John Deere	4039DF001	IV	50	Diesel	Water Truck	TSE - RN 101091
10717	430 Washington	4288	John Deere	4045HF280	IV	50	Diesel	Sweeper Engine	TSE - RN 101091
1735	325 Airfield Rd	4298	Cummins	4BT3.9G4	I	99	Diesel	Generator	TSE - RN 101091
1735	325 Airfield Rd	4299	Cummins	4BT3.9G4	I	99	Diesel	Generator	TSE - RN 101091
1735	325 Airfield Rd	4300	Cummins	4BT3.9G4	I	99	Diesel	Generator	TSE - RN 101091
1735	325 Airfield Rd	4301	Cummins	4BT3.9G4	I	99	Diesel	Generator	TSE - RN 101091
1735	325 Airfield Rd	4310	Deutz	B4M1008	TBD	38.8	JP-8	Start Cart	TSE - RN 101091
1735	325 Airfield Rd	4311	Deutz	B4M1008	TBD	38.8	JP-8	Start Cart	TSE - RN 101091
1341	1335 Koa Rd	907	Reznor	XLI25-3	NA	0.125	LPG	Furnace	202.G.1.
1341	1335 Koa Rd	908	Modine	PA30AB	NA	0.03	LPG	Furnace	202.G.1.
1344	1344 Koa Rd	909	Lennox	LF3E-2201	NA	0.22	LPG	Furnace	202.G.1.
1577	1577 May Rd	910	Lennox	G1404-S-100-6	NA	0.1	LPG	Furnace	202.G.1.
1579	1579 June Rd	911	Lennox	G1404-5-100-6	NA	0.1	LPG	Furnace	202.G.1.
1610	1610 Tangair Rd	912	Ray Pack	H8-0992	NA	0.7	LPG	Boiler	202.G.1.
1610	1610 Tangair Rd	913	Ray Pak	H8-0992	NA	0.7	LPG	Boiler	202.G.1.
1628	1628 Aero Rd	914	Lennox	G14Q-80-5	NA	0.08	LPG	Furnace	202.G.1.
1628	1628 Aero Rd	916	Lennox	G14Q-80-5	NA	0.08	LPG	Furnace	202.G.1.
1628	1628 Aero Rd	917	Lennox	G14Q-80-5	NA	0.08	LPG	Furnace	202.G.1.
1705	173 Airfield Rd	919	Payne	394GAW048150A	NA	0.15	NG	Furnace	202.G.1.
1735	325 Airfield Rd	924	American Standard	GSI-40T34-3N	NA	0.034	NG	Boiler	202.G.1.
1737	340 Airfield Rd	929	American Standard	GSI-40T34-3N	NA	0.034	NG	Boiler	202.G.1.
1748	1748 Airfield Rd	945	Day & Nite	40JJ-5	NA	0.036	NG	Boiler	202.G.1.
1749	1749 Airfield Rd	947	Lennox	GS11D2100	NA	0.1	NG	Furnace	202.G.1.
1754	399 Airfield Rd	948	Rheem	RGDD-10NC-VR	NA	0.1	NG	Furnace	202.G.1.
1785	1785 13th St	950	Lennox	G14Q3-80-2	NA	0.85	LPG	Furnace	202.G.1.
1930	1930 Astral Rd	963	American Standard	G52-40T60-4PLPW	NA	0.06	LPG	Boiler	202.G.1.
51	51 Station Rd	964	Rheem	R6DD-08NE-GR	NA	0.08	LPG	Furnace	202.G.1.
51	51 Station Rd	966	Lennox	GS8D-105N	NA	0.105	LPG	Furnace	202.G.1.
475	475 Comm Ave	970	Rite Engineering	150 WG	NA	1.5	LPG	Boiler	202.G.1.
542	542 Coast Rd	976	Modine	DHP-100SG	NA	0.1	NG	Furnace	202.G.1.
596	596 Surf Rd	977	Reznor	F50E	NA	0.05	LPG	Furnace	202.G.1.
596	596 Surf Rd	978	Reznor	F50E	NA	0.05	LPG	Furnace	202.G.1.
596	596 Surf Rd	979	Lennox	G12Q3E826	NA	0.082	LPG	Furnace	202.G.1.
596	596 Surf Rd	980	Peerless	LUH252	NA	0.025	LPG	Furnace	202.G.1.
657	657 VHF Rd	981	Lennox	G1404-60-13	NA	0.06	LPG	Boiler	202.G.1.
657	657 VHF Rd	982	Lennox	G1404-60-19	NA	0.06	LPG	Furnace	202.G.1.
764	764 Napa Rd	1006	Ajax	OWGX-450-S	NA	0.45	NG	Boiler	202.G.1.
765	765 Napa Rd	1007	Sterling	GMIF-50	NA	0.625	NG	Furnace	202.G.1.
864	864 Arguello Rd	1016	Kewanee	3R2-KPO	NA	0.495	NG	Boiler	202.G.1.
988	988 Ordinance Rd	1025	Sterling	GMIF-65	NA	0.813	LPG	Furnace	202.G.1.
1559	1559 Tonto Rd	1032	Lochnivar	CBN1210	NA	1.21	NG	Boiler	202.G.1.

6601	1785 Utah Ave	1043	Ajax	WGB-2000	NA	2	NG	Boiler	202.G.1.
6817	50 13th St	1046	Ajax	WG-525	NA	0.525	NG	Boiler	202.G.1.
7403	393 10th St	1047	Ajax Boiler	WG-600D	NA	0.6	NG	Boiler	202.G.1.
7425	386 10th St	1051	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
7437	1556 N. Mexico	1053	Ajax Boiler	WG-350	NA	0.35	NG	Boiler	202.G.1.
8415	178 8th St	1073	Ajax Boiler	WGB-1750	NA	1.75	NG	Boiler	202.G.1.
9360	1318 N. Mexico	1092	RITE Engineering	105W	NA	1.05	NG	Boiler	202.G.1.
10525	723 Nebraska	1099	Ajax Boiler	WGH-850S	NA	0.85	NG	Boiler	202.G.1.
10660	1160 N. Mexico	1101	Ajax Boiler	WG-350	NA	0.35	NG	Boiler	202.G.1.
10728	1251 California	1102	Raypak	H2-0624A-CCBRCAA	NA	0.627	NG	Boiler	202.G.1.
11477	1273 Utah Ave	1110	Teledyne Laars	TL80-199NS	NA	0.199	NG	Boiler	202.G.1.
13007	251 Oregon Ave	1114	Raypak	H1-0624	NA	0.627	NG	Boiler	202.G.1.
13143	"O" St / Kansas Ave	1119	Raypak	H3-0624A-CCCRCAA	NA	0.627	NG	Boiler	202.G.1.
13143	"O" St / Kansas Ave	1120	Raypak	H3-0624A-CCCRCAA	NA	0.627	NG	Boiler	202.G.1.
7015	806 13th St	1156	Parker	T1995L	NA	1.995	NG	Boiler	202.G.1.
839	839 Clark St	1746	Kewanee	3R3FO	NA	0.585	NG	Boiler	202.G.1.
10510	1142 California	1845	Unknown	Unknown	NA	0.096	NG	Fd Prep Burner	202.K.1.
10343	718 Community	2614	Reznor	X300-8-S-E	NA	0.3	NG	Furnace	202.G.1.
10343	718 Community Lp	2615	Reznor	X300-8-S-E	NA	0.3	NG	Furnace	202.G.1.
14300	135 Wyoming Ave	2616	A.O.Smith	BTP-140-270	NA	0.27	NG	Boiler	202.G.1.
6816	6816 Igloo Rd	2619	Air-Fan	KE3-112	NA	0.2	NG	Furnace	202.G.1.
8310	351 8th St	2626	Fulton Heating	PHW1000	NA	0.9	NG	Boiler	202.G.1.
8310	351 8th St	2627	Fulton Heating	PHW1000	NA	0.9	NG	Boiler	202.G.1.
13123	2151 So. Dakota	2660	Raypak	W1-0514A-DEDRDAA	NA	0.512	NG	Boiler	202.G.1.
13121	377 So. Dakota Ave	2661	Raypak	W1-0514A-DEDRDAA	NA	0.512	NG	Boiler	202.G.1.
8310	351 8th St	2670	Fulton Heating	PHW1000	NA	0.9	NG	Boiler	202.G.1.
8310	351 8th St	2671	Fulton Heating	PHW1000	NA	0.9	NG	Boiler	202.G.1.
8401	1521 Utah Ave	2673	Fulton Heating	PHW-300	NA	0.3	NG	Boiler	202.G.1.
8401	1521 Utah Ave	2674	Fulton Heating	PHW-300	NA	0.3	NG	Boiler	202.G.1.
11070	758 Nebraska Ave	2676	Parker Boiler	103-20	NA	0.86	NG	Boiler	202.G.1.
11070	758 Nebraska Ave	2677	Raypak	W1-0263B-BEDHDAA	NA	0.264	NG	Boiler	202.G.1.
13121	377 So. Dakota Ave	2679	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
23235	235 Bishop Rd	2683	HydroTherm	AM-100	NA	0.1	NG	Boiler	202.G.1.
852	852 Shervis Rd	3089	Fulton	PHW-950	NA	0.95	NG	Boiler	202.G.1.
852	852 Shervis Rd	3090	Fulton	PHW-950	NA	0.95	NG	Boiler	202.G.1.
1521	1521 Taco Rd	3116	Lennox	G23Q5/6-125-1	NA	0.125	LPG	Furnace	202.G.1.
1521	1521 Taco Rd	3117	Lennox	G23Q5/6-125-1	NA	0.125	LPG	Furnace	202.G.1.
1619	1619 Aero Rd	3118	Sterling	QVF-1005	NA	0.1	LPG	Furnace	202.G.1.
1619	1619 Aero Rd	3119	Sterling	QVF-1005	NA	0.1	LPG	Furnace	202.G.1.
1632	1632 Tangair Rd	3120	Reznor	TR125	NA	0.125	LPG	Furnace	202.G.1.
1735	325 Airfield Rd	3121	Snyder General	GU080AD12AIN	NA	0.08	NG	Furnace	202.G.1.
1810	1810 El Rancho Rd	3123	Tempstar	NTC51BKB2	NA	0.125	LPG	Furnace	202.G.1.
1930	1930 Astral Rd	3126	York	P2UDD12P0950	NA	0.1	LPG	Furnace	202.G.1.
10711	433 Herado Ave	3133	Reznor	HXE400-6	NA	0.4	NG	Furnace	202.G.1.
10711	433 Herado Ave	3134	Reznor	HXE350-6	NA	0.35	NG	Furnace	202.G.1.
10713	431 Herado Ave	3135	Reznor	HX400-5-S2E	NA	0.4	NG	Furnace	202.G.1.
11040	41 Santa Inez Ave	3137	Magic Chef	EG66-55D-5	NA	0.055	NG	Furnace	202.G.1.



11040	41 Santa Inez Ave	3138	Magic Chef	EG66-55D-5	NA	0.055	NG	Furnace	202.G.1.
11070	758 Nebraska Ave	3141	Raypak	W1-0263B-BEDHDAA	NA	0.264	NG	Boiler	202.G.1.
13022	285 Kansas Ave	3143	Reznor	XE400-8	NA	0.4	NG	Furnace	202.G.1.
16170	100 Montana Ave	3154	Raypak	H6-1468A-CEBRADB	NA	1.467	NG	Boiler	202.G.1.
16170	100 Montana Ave	3155	Raypak	W2-0333C-BEAHDAA	NA	0.333	NG	Boiler	202.G.1.
1335	1335 Koa Rd	3171	Day & Night	383KAV048111	NA	0.11	LPG	Furnace	202.G.1.
1335	1335 Koa Rd	3172	Day & Night	383KAV048111	NA	0.11	LPG	Furnace	202.G.1.
1335	1335 Koa Rd	3173	Day & Night	383KAV36070	NA	0.11	LPG	Furnace	202.G.1.
13323	215 So Dakota Ave	3176	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13323	215 So Dakota Ave	3178	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13323	215 So Dakota Ave	3179	Raypak	W2-0624	NA	0.627	NG	Boiler	202.G.1.
1632	1632 Tangair Rd	3203	Reznor	TR125	NA	0.125	LPG	Furnace	202.G.1.
1338	1338 Koa Rd	3216	Markel	HFSF	NA	0.1	LPG	Furnace	202.G.1.
1530	1530 Rollo Rd	3217	Payne	PH8UAA036065	NA	0.066	NG	Furnace	202.G.1.
596	596 Surf Rd	3218	Lennox	G12Q3E826	NA	0.082	LPG	Furnace	202.G.1.
6005	6005 Santa Barbara	3219	Rheem	RGDD-08NE-GR	NA	0.08	NG	Furnace	202.G.1.
848	848 Clark St	3223	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1.
1545	1545 35th St	3224	Teledyne Laars	HH032MN20CCAAXX	NA	0.32	NG	Boiler	202.G.1.
1545	1545 35th St	3225	Teledyne Laars	HH032MN20CCAAXX	NA	0.32	NG	Boiler	202.G.1.
860	860 Clark St	3228	Bryant	376CAV060115	NA	0.115	NG	Furnace	202.G.1.
860	860 Clark St	3229	Bryant	376CAV060115	NA	0.115	NG	Furnace	202.G.1.
1544	1544 35th St	3230	Payne	Unknown	NA	0.78	NG	Furnace	202.G.1.
1631	1631 Aero Rd	3231	Modine	PV75AE0185	NA	0.075	LPG	Furnace	202.G.1.
1631	1631 Aero Rd	3232	Modine	PV75AE0185	NA	0.075	LPG	Furnace	202.G.1.
1631	1631 Aero Rd	3233	Modine	PV75AE0185	NA	0.075	LPG	Furnace	202.G.1.
1631	1631 Aero Rd	3234	Modine	PV75AE0185	NA	0.075	LPG	Furnace	202.G.1.
1659	1659 Mono Rd	3235	Lennox	G23Q5/6-150-4	NA	0.15	LPG	Furnace	202.G.1.
1740	359 Airfield Rd	3236	Day & Night	376C	NA	0.074	NG	Furnace	202.G.1.
1740	359 Airfield Rd	3237	Day & Night	376C	NA	0.074	NG	Furnace	202.G.1.
1749	1749 Airfield Rd	3238	Lennox	GS11D2100	NA	0.08	NG	Furnace	202.G.1.
1785	1785 13th St	3239	Payne	395CAV048091	NA	0.088	LPG	Furnace	202.G.1.
6444	351 14th St	3244	Tempstar	GNJ075M16C1	NA	0.075	NG	Furnace	202.G.1.
6601	1785 Utah Ave	3246	Raypak	H4-0751	NA	0.75	NG	Boiler	202.G.1.
9340	372 6th St	3247	Reznor	HCRGB75-5-2	NA	0.75	NG	Furnace	202.G.1.
10122	706 Washington	3248	Reznor	HXE175-8-S-2-E	NA	0.175	NG	Furnace	202.G.1.
10122	706 Washington	3249	Reznor	PG400-S-2	NA	0.4	NG	Furnace	202.G.1.
10122	706 Washington	3250	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1.
10122	706 Washington	3251	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1.
10343	718 Community Lp	3252	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1.
10343	718 Community Lp	3253	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1.
21150	150 Cotar Rd	3258	HydroTherm	MR-1200BPV	NA	1.2	LPG	Boiler	202.G.1.
11152	301 Guam Ave	3260	Carrier	PG8UAA060111	NA	0.11	NG	Furnace	202.G.1.
13001	181 Oregon Ave	3262	Carrier	58WAV091-16	NA	0.088	NG	Furnace	202.G.1.
13001	181 Oregon Ave	3263	Carrier	58WAV091-16	NA	0.088	NG	Furnace	202.G.1.
13001	181 Oregon Ave	3264	Carrier	58WAV091-16	NA	0.088	NG	Furnace	202.G.1.
13001	181 Oregon Ave	3265	Carrier	58WAV091-16	NA	0.088	NG	Furnace	202.G.1.
13321	261 So. Dakota.	3267	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13321	261 So. Dakota Ave	3269	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.

13321	261 So. Dakota Ave	3270	Raypak	W2-0624	NA	0.627	NG	Boiler	202.G.1.
21330	End of Gun Rd	3273	Raypak	H1-0183	NA	0.186	LPG	Boiler	202.G.1.
1740	359 Airfield Rd	3281	Reznor	HCRGB175-S	NA	0.15	NG	Furnace	202.G.1.
1740	359 Airfield Rd	3282	Reznor	TR75	NA	0.075	NG	Furnace	202.G.1.
10366	730 Community Lp	3287	Bryant	395CAV060111	NA	0.11	NG	Furnace	202.G.1.
11152	301 Guam Ave	3295	Lennox	G16Q-5X-100-5	NA	0.1	NG	Furnace	202.G.1.
11146	1028 Iceland Ave	3297	Lennox	G11E-200V-7	NA	0.2	NG	Furnace	202.G.1.
11477	1273 Utah Ave	3298	Teledyne Laars	HH0320MN20CCAAXX	NA	0.32	NG	Boiler	202.G.1.
16130	201 Korina Ave	3299	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1.
16135	203 Korina Ave	3300	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1.
16140	205 Korina Ave	3301	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1.
16140	205 Korina Ave	3302	York	P3HUD20L10401A	NA	0.13	NG	Furnace	202.G.1.
10260	730 Community Lp	3351	Reznor	5CE125-6-5	NA	0.125	NG	Furnace	202.G.1.
10314	1206 California	3352	Consolidated Ind	MBA-120-NH5RX	NA	0.12	NG	Furnace	202.G.1.
10366	730 Community Lp	3353	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1.
10366	730 Community Lp	3354	Lennox	G16Q5X-100-5	NA	0.1	NG	Furnace	202.G.1.
10363	730 Community Lp	3355	Lennox	G20Q3/4X-125-3	NA	0.125	NG	Furnace	202.G.1.
10363	730 Community Lp	3356	Lennox	G20Q3/4X-125-3	NA	0.125	NG	Furnace	202.G.1.
10373	730 Community Lp	3357	Lennox	G20Q5/6X-100-2	NA	0.1	NG	Furnace	202.G.1.
10715	416 Washington	3358	Western	250-F9A	NA	0.25	NG	Furnace	202.G.1.
10717	430 Washington	3359	Gaffers-Sattler	080-3	NA	0.08	NG	Furnace	202.G.1.
11165	1207 N. Mexico	3360	Bryant	376CAV060115	NA	0.115	NG	Furnace	202.G.1.
11248	869 Iceland Ave	3361	Raypak	H1-0263	NA	0.264	NG	Boiler	202.G.1.
11510	1209 Utah Ave	3362	Rheem	RGDG-07NAUER	NA	0.075	NG	Furnace	202.G.1.
13005	189 Oregon Ave	3363	Frazer-Johnson	250-C-33	NA	0.25	NG	Furnace	202.G.1.
1317	1335 Koa Rd	3365	Frazer-Johnson	250-C-33	NA	0.25	LPG	Furnace	202.G.1.
1335	1335 Koa Rd	3368	Day & Night	383KAV060111	NA	0.11	LPG	Furnace	202.G.1.
14001	14001 Wyoming	3370	Lenox	G16Q4/5X-125-1		0.125	NG	Furnace	202.G.1.
12901	1102 Buellton	3371	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
17595	800 California	3372	Bryant	383KHV048091	NA	0.088	NG	Furnace	202.G.1.
2500	2500 Arizona Ave	3373	Bryan Steam Corp	D-450-W-FDGO	NA	0.45	NG	Boiler	202.G.1.
2505	2505 32nd St	3375	Trane	TUD100C945H4	NA	0.1	NG	Furnace	202.G.1.
6601	1785 Utah Ave	3376	Lennox	G14Q4-80-6	NA	0.088	NG	Furnace	202.G.1.
7430	348 8th St	3378	Reznor	HXC225-6-S-2-E	NA	0.2	NG	Furnace	202.G.1.
7430	348 8th St	3379	Reznor	58XSC120-LG	NA	0.135	NG	Furnace	202.G.1.
8425	1411 Utah Ave	3382	Lennox	G14Q3-80-2	NA	0.08	NG	Furnace	202.G.1.
8425	1411 Utah Ave	3383	Lennox	G20Q5/6X-100-7	NA	0.1	NG	Furnace	202.G.1.
13330	781 "N" St	3584	Ajax Boiler	SRFG-40	NA	1.75	NG	Boiler	202.G.1.
9340	372 6th St	3621	Trane	YCD150D4L0AA	NA	0.15	NG	Furnace	202.G.1.
9340	372 6th St	3622	Trane	BYC130G4H0DA	NA	0.3	NG	Furnace	202.G.1.
9340	372 6th St	3623	Trane	YCD150C4L0BB	NA	0.15	NG	Furnace	202.G.1.
9340	372 6th St	3624	Trane	YCH180BN4L0DE	NA	0.25	NG	Furnace	202.G.1.
9340	372 6th St	3625	Trane	BYC060F4L0BB	NA	0.88	NG	Furnace	202.G.1.
7050	818 13th St	3627	Ajax	WPG-1050PLC	NA	1	NG	Boiler	202.G.1.
7050	818 13th St	3628	Ajax	WPG-1050PLC	NA	1	NG	Boiler	202.G.1.
75	75 Station Rd	3629	Patterson-Kelley	SN-700	NA	0.7	LPG	Boiler	202.G.1.
9320	334 6th St	3636	Lochinvar	CBN1796	NA	1.79	NG	Boiler	202.G.1.
11439	1172 Iceland Ave	3637	Parker Boiler	T760LR	NA	0.76	NG	Boiler	202.G.1.

660	660 S Ynez Ridge	3645	Lochinvar	CBN0495	NA	0.495	NG	Boiler	202.G.1.
861	891 Clark St	3646	HydroTherm	KN-6	NA	0.6	NG	Boiler	202.G.1.
1555	1555 Talo Rd	3652	Raypak	H8-0992A	NA	0.99	NG	Boiler	202.G.1.
1555	1555 Talo Rd	3653	Raypak	H3-0652A	NA	0.65	NG	Boiler	202.G.1.
1731	320 Airfield Rd	3654	Raypak	H3-0752A	NA	0.75	NG	Boiler	202.G.1.
1737	340 Airfield Rd	3655	Patterson-Kelley	NM-1000	NA	0.94	NG	Boiler	202.G.1.
1737	340 Airfield Rd	3656	Patterson-Kelley	NM-1000	NA	0.94	NG	Boiler	202.G.1.
1746	373 Airfield Rd	3657	HydroTherm	AM-150	NA	0.15	NG	Boiler	202.G.1.
1824	1824 Brio Rd	3659	HydroTherm	AM-150	NA	0.135	LPG	Boiler	202.G.1.
1833	1833 Tethys Rd	3660	HydroTherm	AM-150	NA	0.135	LPG	Boiler	202.G.1.
1930	1930 Astral Rd	3664	York	P2UDD2QPQ9SQ1C	NA	1	LPG	Furnace	202.G.1.
2500	2500 Arizona Ave	3665	Raypak	W1-0333B-CEDRBDA	NA	0.333	NG	Boiler	202.G.1.
6419	6419 15th St	3666	Laars Heating	JVS100NDJS	NA	0.1	NG	Boiler	202.G.1.
6601	1785 Utah Ave	3667	Amer. Water Heater	CG32-75T75-4NV	NA	0.751	NG	Boiler	202.G.1.
6670	1655 Utah Ave	3668	Bradford White	D100L2503N	NA	0.25	NG	Boiler	202.G.1.
7015	806 13th St	3669	Bradford White	D100L1993N	NA	0.199	NG	Boiler	202.G.1.
7403	393 10th St	3670	Ajax Boiler	WFG-350	NA	0.35	NG	Boiler	202.G.1.
7425	386 10th St	3672	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
7425	386 10th St	3673	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
8173	1524 Nevada	3676	Bradford White	75T803N	NA	0.08	NG	Boiler	202.G.1.
8175	1520 Nevada	3677	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
8175	1520 Nevada	3678	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
8175	1520 Nevada Ave	3679	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
8250	1529 California	3680	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
8290	1472 Nevada Ave	3682	Amer. App. Mfg	DSID199-85-1	NA	0.199	NG	Boiler	202.G.1.
8305	385 8th St	3683	Ajax Boiler	WNG-350	NA	0.35	NG	Boiler	202.G.1.
8310	351 8th St	3684	A.O. Smith	BTR200104	NA	0.199	NG	Boiler	202.G.1.
8505	1539 Iceland Ave	3688	Amer. Appliance	DSID250-100	NA	0.25	NG	Boiler	202.G.1.
9192	1390 Nevada Ave	3691	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
9192	1390 Nevada Ave	3692	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
9192	1390 Nevada Ave	3693	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
9192	1390 Nevada Ave	3694	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
9192	1390 Nevada Ave	3695	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
9192	1390 Nevada Ave	3696	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
9307	356 6th St	3697	Raypak	H3-0902	NA	0.9	NG	Boiler	202.G.1.
9334	360 6th St	3698	Raypak	WH3-0502	NA	0.5	NG	Boiler	202.G.1.
10145	712 Washington	3699	Parker Boiler	48L	NA	1.995	NG	Boiler	202.G.1.
10145	712 Washington	3700	Bradford White	D100L1993N	NA	0.199	NG	Boiler	202.G.1.
10400	728 Community Lp	3701	Ajax Boiler	WFG-800-LN	NA	0.8	NG	Boiler	202.G.1.
10660	1160 N Mexico Ave	3702	American App.	DSID250-100-1	NA	0.25	NG	Boiler	202.G.1.
10728	1251 California	3703	American App.	DSID199-101-3C V	NA	0.199	NG	Boiler	202.G.1.
11041	71 Santa Inez Ave	3705	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
11041	71 Santa Inez Ave	3706	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
11042	91 Santa Inez Ave	3709	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
11042	91 Santa Inez Ave	3711	Voyager	SSV199-45SA	NA	0.199	NG	Boiler	202.G.1.
11042	91 Santa Inez Ave	3712	Voyager	SSV199-45SA	NA	0.199	NG	Boiler	202.G.1.
11777	California /Utah Ave	3713	Bradford White	M4403T6EN12	NA	0.04	NG	Boiler	202.G.1.
13007	251 Oregon Ave	3718	A.O. Smith	BTR198100	NA	0.199	NG	Boiler	202.G.1.

13007	251 Oregon Ave	3719	Bradford White	D100L1993N	NA	0.2	NG	Boiler	202.G.1.
13007	251 Oregon Ave	3720	Bradford White	D100L1993N	NA	0.199	NG	Boiler	202.G.1.
13123	2151 So Dakota	3722	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13123	2151 So Dakota ve	3723	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13321	2151 So Dakota	3724	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13323	2151 So Dakota	3725	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13675	108 Colorado Ave	3726	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13675	108 Colorado Ave	3727	A.O. Smith	BTC 200 920	NA	0.199	NG	Boiler	202.G.1.
13848	278 So Dakota Ave	3728	Amer. Water Heater	DCG3-100T199-6NO	NA	0.199	NG	Boiler	202.G.1.
14300	135 Wyoming Ave	3732	A.O. Smith	BTH 300A 970	NA	0.3	NG	Boiler	202.G.1.
16200	587 Summersill Ave	3733	Raypak	H3-0402A	NA	0.399	NG	Boiler	202.G.1.
1583	1583 Tangair Rd	3741	ARFF	T.O. 35E1-2-13-1	NA	NA	LPG	Aircrft Bmr	202.P.11
8500	1515 Iceland Ave	3745	Bradford White	D100L1993N	NA	0.199	NG	Boiler	202.G.1.
13854	1103 Santa Maria	3763	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13854	1103 Santa Maria	3764	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13855	1001 Santa Maria	3766	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13856	1002 Santa Maria	3767	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13857	1104 Guadalupe	3769	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13857	1104 Guadalupe	3770	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13859	1202 Guadalupe	3773	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13859	1202 Guadalupe	3774	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13860	1200 Guadalupe	3776	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13861	1201 Guadalupe	3777	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13861	1201 Guadalupe	3778	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13862	1101 Guadalupe	3779	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13863	1103 Guadalupe	3782	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13864	1105 Guadalupe ve	3783	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13864	1105 Guadalupe	3784	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13865	1001 Guadalupe	3786	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13866	1103 Guadalupe	3787	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
13866	1103 Guadalupe	3788	Lennox	HM30-100-1	NA	0.1	NG	Boiler	202.G.1.
10145	712 Washington	3789	Parker Boiler	48L	NA	1.995	NG	Boiler	202.G.1.
6527	65 13th St	3810	Ray Pak	H3-0652B	NA	0.65	NG	Boiler	202.G.1.
871	871 Tuttle St	3811	Raypak	H3-0652B	NA	0.65	NG	Boiler	202.G.1.
7501	172 10th St	3812	Lochinvar	CHN651	NA	0.65	NG	Boiler	202.G.1.
7501	172 10th St	3813	Lochinvar	CHN651	NA	0.65	NG	Boiler	202.G.1.
13330	781 "N" St	3819	Ajax Boiler	SRFG-40	NA	1.75	NG	Boiler	202.G.1.
8250	1529 California	3826	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
11041	71 Santa Inez Ave	3827	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
1930	1930 Astral Rd	3828	York	P2UDD2QPQ9SQ1C	NA	1	LPG	Furnace	202.G.1.
1930	1930 Astral Rd	3829	York	P2UDD2QPQ9SQ1C	NA	1	LPG	Furnace	202.G.1.
13848	278 So Dakota Ave	3832	Raypak	H3-0302B	NA	0.3	NG	Boiler	202.G.1.
1728	302 Airfield Rd	3833	A.O. Smith	FCG-100 300	NA	0.075	NG	Boiler	202.G.1.
1335	1335 Koa Rd	3850	Rheem	RCD156-82-1	NA	0.156	NG	Boiler	202.G.1.
1871	1871 Star Rd	3851	Polaris	PG10501302PV	NA	0.13	NG	Boiler	202.G.1.
1871	1871 Star Rd	3852	Polaris	PG10501302PV	NA	0.13	NG	Boiler	202.G.1.
1871	1871 Star Rd	3853	Polaris	PG10501302PV	NA	0.13	NG	Boiler	202.G.1.

7425	386 10th St	3854	Amer. Appliance	DSID199-100-G	NA	0.199	NG	Boiler	202.G.1.
7501	172 10th St	3855	American Heater	G52-40T34-3N	NA	0.034	NG	Boiler	202.G.1.
8314	374 8th St	3857	American Heater	G62-40T34-3N	NA	0.034	NG	Boiler	202.G.1.
8500	1515 Iceland Ave	3858	American Heater	DCG31100S1996N	NA	0.199	NG	Boiler	202.G.1.
9005	725 Washington	3859	Lochinvar	CBN0745	NA	0.745	NG	Boiler	202.G.1.
9005	725 Washington	3860	Lochinvar	CBN0745	NA	0.745	NG	Boiler	202.G.1.
9005	725 Washington	3861	Lochinvar	EWN150PM	NA	0.15	NG	Boiler	202.G.1.
9005	725 Washington	3862	Lochinvar	EWN150PM	NA	0.15	NG	Boiler	202.G.1.
9340	372 6th St	3863	A.O. Smith	FCG 100 270	NA	0.075	NG	Boiler	202.G.1.
10343	718 Community Lp	3864	A.O. Smith	BTC 200 840	NA	0.199	NG	Boiler	202.G.1.
10366	730 Community Lp	3865	A.O. Smith	FCG 100 270	NA	0.075	NG	Boiler	202.G.1.
11777	California Blvd/Utah	3867	American Heater	G62-40T34-3N	NA	0.34	NG	Boiler	202.G.1.
13700	124 So Dakota Ave	3868	Bradford White	D100L1993N	NA	0.199	NG	Boiler	202.G.1.
14002	14002 Wyoming	3869	Teledyne-Laars	EBDP-110	NA	0.11	NG	Boiler	202.G.1.
10366	730 Community Lp	3871	Accutemp	GF1201B4800	NA	0.095	NG	Fd Prep Burner	202.K.1.
13121	377 So. Dakota Ave	3916	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13121	377 So. Dakota Ave	3917	Hydrotherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
13863	1103 Guadalupe	3918	Heat Transfer	SSVH-130-45SB	NA	0.13	NG	Boiler	202.G.1.
7525	1579 Utah Ave	3919	Amer. Water Heater	PG1034-100-2NV	NA	0.1	NG	Boiler	202.G.1.
11041	71 Santa Inez Ave	3920	Voyager	SSV199-45SB	NA	0.199	NG	Boiler	202.G.1.
11041	71 Santa Inez Ave	3922	Voyager	SSV199-45SA	NA	0.199	NG	Boiler	202.G.1.
1743	355 Airfield Rd	3923	Raypak	H3-0302B	NA	0.3	NG	Boiler	202.G.1.
1743	355 Airfield Rd	3924	Raypak	H3-0302B	NA	0.3	NG	Boiler	202.G.1.
7437	1556 N Mexico Ave	3941	Ajax Boiler	WRFG-840	NA	0.84	NG	Boiler	202.G.1.
1800	150 Taurus Rd	3942	Patterson-Kelley	N2000-MFD	NA	2	LPG	Boiler	202.G.1.
1728	302 Airfield Rd	3951	Lochinvar	CHN751	NA	0.75	NG	Boiler	202.G.1.
799	799 Coast Rd	3961	Smith	GTGX-150	NA	0.15	NG	Boiler	202.G.1.
799	799 Coast Rd	3962	Smith	GTGX150	NA	0.15	NG	Boiler	202.G.1.
16113	564 Summersill Ave	3965	American Standard	D100-250-AS	NA	0.25	NG	Boiler	202.G.1.
11013	1036 California	3971	Westcast/Smith	GT-400	NA	0.399	NG	Boiler	202.G.1.
1546A	1546A Talo Rd	3986	Patterson Kelly	N2000-MFD	NA	2	NG	Boiler	202.G.1.
1546B	1546B Talo Rd	3987	Patterson-Kelley	N2000-MFD	NA	2	NG	Boiler	202.G.1.
1740	359 Airfield Rd	3988	A.O. Smith	FCG 100 300	NA	0.751	NG	Boiler	202.G.1.
6710	32 13th St	3989	Raypak	H3-0401	NA	0.375	NG	Boiler	202.G.1.
13123	2151 So Dakota	3990	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
799	799 Coast Rd	3998	Rheem	G100-80N	NA	0.076	NG	Boiler	202.G.1.
6601	1785 Utah Ave	3999	American Heater	CG31-75T75-4NV	NA	0.751	NG	Boiler	202.G.1.
10503	711 Nebraska Ave	4000	Raypak	WH1-0402	NA	0.399	NG	Boiler	202.G.1.
840	840 Clark St	4001	Lochinvar	KBN285	NA	0.285	NG	Boiler	202.G.1.
840	840 Clark St	4002	Lochinvar	KBN285	NA	0.285	NG	Boiler	202.G.1.
8173	1524 Nevada Ave	4007	Raypak	H9-1802	NA	1.8	NG	Boiler	202.G.1.
870	870 Stroop Rd	4019	Ajax	BP7G	NA	0.7	NG	Boiler	202.G.1.
8195	1522 Nevada Ave	4020	Laars/Pennant	PNCH1000N	NA	0.999	NG	Boiler	202.G.1.
8314	374 8th St	4025	Patterson-Kelley	N750-MFD	NA	0.75	NG	Boiler	202.G.1.
8314	374 8th St	4026	Patterson-Kelley	N750-MFD	NA	0.75	NG	Boiler	202.G.1.
875	875 Sweeney Rd	4040	Ajax	WPG-1050	NA	1.05	NG	Boiler	202.G.1.
13852	1201 Santa Maria	4041	Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.

13860	1200 Guadalupe	4042	Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
8401	1521 Utah Ave	4043	Raypak	H7-1503	NA	1.5	NG	Boiler	202.G.1.
8401	1521 Utah Ave	4044	Raypak	H7-1503	NA	1.5	NG	Boiler	202.G.1.
11042	91 Santa Inez Ave	4053	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
1737	340 Airfield Rd	4056	A. O. Smith	FGR 40 248E	NA	0.038	NG	Boiler	202.G.1.
1743	355 Airfield Rd	4057	Bradford White	M4403T6EN12	NA	0.04	NG	Boiler	202.G.1.
6510	85 13th St	4058	Raypak	H3-0752B	NA	0.75	NG	Boiler	202.G.1.
23201	201 Bishop Rd	4059	Raypak	H3-0181	NA	0.181	NG	Boiler	202.G.1.
11042	91 Santa Inez Ave	4063	HydroTherm	AM-300	NA	0.299	NG	Boiler	202.G.1.
7011	826 13th St	4068	Cleaver Brooks	CFC-700-750-60HW	NA	1.5	NG	Boiler	202.G.1.
8510	1521 Iceland Ave	4069	Patterson-Kelley	N-750MFD	NA	0.75	NG	Boiler	202.G.1.
8510	1521 Iceland Ave	4070	Patterson-Kelley	N-750MFD	NA	0.75	NG	Boiler	202.G.1.
2500	2500 Arizona Ave	4071	A.O. Smith	Unknown	NA	0.16	NG	Boiler	202.G.1.
1506	1559 Tonto Rd	4086	Raypak	H7-0753	NA	0.299	NG	Boiler	202.G.1.
1506	1559 Tonto Rd	4087	Raypak	H7-0753	NA	0.299	NG	Boiler	202.G.1.
8500	1515 Iceland Ave	4088	Raypak	H7-2003	NA	1.999	NG	Boiler	202.G.1.
8500	1515 Iceland Ave	4089	Raypak	H7-2003	NA	1.999	NG	Boiler	202.G.1.
10510	1142 California	4090	American Standard	BCG380T1506NOX	NA	0.075	NG	Boiler	202.G.1.
13851	1200 Santa Maria	4091	Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13852	1201 Santa Maria	4092	Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13856	1002 Santa Maria	4093	Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13865	1001 Guadalupe	4094	Heat Transfer	PH199-55	NA	0.199	NG	Boiler	202.G.1.
8190	1580 Nevada Ave	4106	Unknown	Unknown	NA	0.16	NG	PSB Heater	202.G.1.
12000	867 Washington	4110	HydroTherm	KN10	NA	1	NG	Boiler	202.G.1.
12000	867 Washington	4111	HydroTherm	KN10	NA	1	NG	Boiler	202.G.1.
13330	781 "N" St	4115	Takag	T-M50	NA	0.36	NG	Boiler	202.G.1.
6670	1655 Utah Ave	4121	Patterson-Kelley	N2000-MFD	NA	2	NG	Boiler	202.G.1.
6670	1655 Utah Ave	4122	Patterson-Kelley	N2000-MFD	NA	2	NG	Boiler	202.G.1.
8310	351 8th St	4136	Fulton Heating Solutions	PHW1000	NA	0.9	NG	Boiler	202.G.1.
13855	1001 Santa Maria	4142	Heat Transfer/Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
1746	373 Airfield Rd	4151	American Water Heater	G61-40T34-3N	NA	0.034	NG	Boiler	202.G.1.
490	490 Arguello Rd	4156	Takagi	T-K3	NA	0.199	LPG	Boiler	202.G.1.
1555	1555 Talo Rd	4179	American	FG6140T403N0	NA	0.036	NG	Boiler	202.G.1.
1555	1555 Talo Rd	4180	American	G52-40T34-3N	NA	0.036	NG	Boiler	202.G.1.
1731	320 Airfield Rd	4181	A.O. Smith	FGR40-236	NA	0.038	NG	Boiler	202.G.1.
6710	32 13th St	4182	American	G62 40T34-3N	NA	0.034	NG	Boiler	202.G.1.
8175	1520 Nevada Ave	4183	Rheem	G76-75C	NA	0.075	NG	Boiler	202.G.1.
8290	1472 Nevada Ave	4184	Raypak	H9-1262B	NA	1.262	NG	Boiler	202.G.1.
8339	308 8th St	4185	American Water Heater	G61-40T34-3N	NA	0.034	NG	Boiler	202.G.1.
9190	1382 Nevada Ave	4186	Patterson-Kelley	C-300LNX	NA	0.3	NG	Boiler	202.G.1.
9190	1382 Nevada Ave	4187	Patterson-Kelley	C-300LNX	NA	0.3	NG	Boiler	202.G.1.
9307	356 6th St	4188	Rheem	4150VN	NA	0.04	NG	Boiler	202.G.1.
9320	334 6th St	4189	Bradford White	M4403T6EN12	NA	0.04	NG	Boiler	202.G.1.
9334	360 6th St	4190	American Water Heater	FG140T403NO	NA	0.04	NG	Boiler	202.G.1.
9340	372 6th St	4191	American Water Heater	GVF433TN	NA	0.033	NG	Boiler	202.G.1.
9340	372 6th St	4192	Rheem	82V40-2	NA	0.033	NG	Boiler	202.G.1.
9340	372 6th St	4193	A.O. Smith	FCG100270	NA	0.04	NG	Boiler	202.G.1.
10122	706 Washington	4194	A.O. Smith	FGR75232	NA	0.075	NG	Boiler	202.G.1.

10314	1206 California	4195	American Water Heater	CG3275T754NV	NA	0.074	NG	Boiler	202.G.1.
10317	1204 California	4196	Bradford White	M4403T6EN12	NA	0.04	NG	Boiler	202.G.1.
10364	722 Community Lp	4197	Vanguard	5AV69	NA	0.038	NG	Boiler	202.G.1.
10366	730 Community Lp	4201	Bradford White	M440T6FBN	NA	0.04	NG	Boiler	202.G.1.
10373	724 Community Lp	4202	A.O. Smith	40248E	NA	0.038	NG	Boiler	202.G.1.
10503	711 Nebraska Ave	4203	Bradford White	M4403T6EN12	NA	0.033	NG	Boiler	202.G.1.
10713	431 Herado Ave	4205	Bradford White	M4403T6EN12	NA	0.04	NG	Boiler	202.G.1.
10717	430 Washington	4206	Bradford White	M4403T6EN12	NA	0.04	NG	Boiler	202.G.1.
11013	1036 California	4207	Bradford White	M4403T6EN12	NA	0.036	NG	Boiler	202.G.1.
11040	41 Santa Inez Ave	4208	A.O. Smith	EGR40236	NA	0.038	NG	Boiler	202.G.1.
12901	1102 Buellton Drive	4209	A.O. Smith	BTC200840	NA	0.199	NG	Boiler	202.G.1.
12903	1104 Buellton Drive	4210	Bradford White	D100L199E3N	NA	0.199	NG	Boiler	202.G.1.
12905	1106 Buellton Drive	4211	American Water Heater	G5275T804N	NA	0.08	NG	Boiler	202.G.1.
12907	1108 Buellton Drive	4212	American Water Heater	BFG6140T403NO	NA	0.04	NG	Boiler	202.G.1.
12911	1103 Buellton Drive	4213	American Appliance	DSID2501001	NA	0.25	NG	Boiler	202.G.1.
12913	1105 Buellton Drive	4214	Bradford White	M47556CN12	NA	0.075	NG	Boiler	202.G.1.
12915	1107 Buellton Drive	4215	American Appliance	DSID200-100G	NA	0.199	NG	Boiler	202.G.1.
21330	End of Gun Rd	4218	A.O. Smith	FCR40-243	NA	0.037	LPG	Boiler	202.G.1.
8312	376 8th St	4219	A.O. Smith	EGR40240	NA	0.038	NG	Boiler	202.G.1.
11025	964 Utah Ave	4220	American Water Heater	BFG6140T403NO	NA	0.04	NG	Boiler	202.G.1.
6015	6015 Santa Barbara	4221	Dayton	FG9B08012UP11C	NA	0.075	NG	Furnace	202.G.1.
6447	6447 14th St	4222	Payne	PG8JAA048090	NA	0.08	NG	Furnace	202.G.1.
11439	1172 Iceland Ave	4223	Lennox	G51MP-600-110-08	NA	0.11	NG	Furnace	202.G.1.
12901	1102 Buellton Drive	4224	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12903	1104 Buellton Drive	4225	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12903	1104 Buellton Drive	4226	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12905	1106 Buellton Drive	4227	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12905	1106 Buellton Drive	4228	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12907	1108 Buellton Drive	4229	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12911	1103 Buellton Drive	4230	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12911	1103 Buellton Drive	4231	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12913	1105 Buellton Drive	4232	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12913	1105 Buellton Drive	4233	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12915	1107 Buellton Drive	4234	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
12915	1107 Buellton Drive	4235	Lennox	G20Q3X-75-7	NA	0.075	NG	Furnace	202.G.1.
14002	14002 Wyoming	4236	Lennox	G16Q5X71007	NA	0.1	NG	Furnace	202.G.1.
14002	14002 Wyoming	4237	Lennox	G16Q5X71008	NA	0.1	NG	Furnace	202.G.1.
14003	14003 Wyoming	4238	Arcoaire	GDK125N120A1	NA	0.12	NG	Furnace	202.G.1.
14003	14003 Wyoming	4239	Arcoaire	GDK125N120A2	NA	0.12	NG	Furnace	202.G.1.
14004	14004 Wyoming	4240	Payne	PG8UAA066111	NA	0.11	NG	Furnace	202.G.1.
14004	14004 Wyoming	4241	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14004	14004 Wyoming	4242	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14005	14005 Wyoming	4243	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14005	14005 Wyoming	4244	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14005	14005 Wyoming	4245	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14006	14006 Wyoming	4246	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14006	14006 Wyoming	4247	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14006	14006 Wyoming	4248	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.

14007	14007 Wyoming	4249	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14007	14007 Wyoming	4250	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14007	14007 Wyoming	4251	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14008	14010 Wyoming	4252	Payne	PG8UAA066111	NA	0.11	NG	Furnace	202.G.1.
14008	14010 Wyoming	4253	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14008	14010 Wyoming	4254	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14009	14010 Wyoming	4255	Janitrol	CVC120-85	NA	0.12	NG	Furnace	202.G.1.
14009	14010 Wyoming	4256	Dayton	GF8100C16MU11A	NA	0.1	NG	Furnace	202.G.1.
14010	14010 Wyoming	4258	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
14010	14010 Wyoming	4259	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
14010	14010 Wyoming	4260	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
14010	14010 Wyoming	4261	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
14010	14010 Wyoming	4262	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
14010	14010 Wyoming	4263	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
14010	14010 Wyoming	4264	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
14010	14010 Wyoming	4265	Rheem	RGDG12NARJR	NA	0.125	NG	Furnace	202.G.1.
23228	228 Bishop Rd	4266	Lennox	G51MP-60C-110-01	NA	0.11	NG	Furnace	202.G.1.
23228	228 Bishop Rd	4267	Lennox	G51MP-60C-110-01	NA	0.11	NG	Furnace	202.G.1.
13851	1200 Santa Maria	4270	Transfer/Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13853	1101 Santa Maria	4271	Transfer/Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13853	1101 Santa Maria	4272	Transfer/Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13855	1001 Santa Maria	4273	Transfer/Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13858	1102 Guadalupe	4274	Transfer/Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
13858	1102 Guadalupe	4275	Transfer/Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
10577	747 Nebraska Ave	4276	Raypak	H7-500	NA	0.5	NG	Boiler	202.G.1.
10577	747 Nebraska Ave	4277	Raypak	H7-500	NA	0.5	NG	Boiler	202.G.1.
10577	747 Nebraska Ave	4278	Raypak	H7-500	NA	0.5	NG	Boiler	202.G.1.
10577	747 Nebraska Ave	4279	Raypak	H7-500	NA	0.5	NG	Boiler	202.G.1.
6601	1785 Utah Ave	4282	American Heater	CG32-75T75-4NOV	NA	0.075	NG	Boiler	202.G.1.
1806	1806 Taurus Rd	4289	Parker	G672RL	NA	0.672	LPG	Boiler	202.G.1.
6005	6005 Santa Barbara	4290	American Standard	CG32-75T75-4NOV	NA	0.075	NG	Boiler	202.G.1.
14009	14009 Wyoming	4302	Payne	PG8JAA066110	NA	0.11	NG	Furnace	202.G.1
13862	1101 Guadalupe.	4303	Phoenix	PH199-55	NA	0.199	NG	Boiler	202.G.1.
10711	433 Herado Ave.	4304	American Heater	CG32-75T75-4NOV	NA	0.075	NG	Boiler	202.G.1.
8312	376 8th St	4308	Comfort Aire	GMUH125-E5A	NA	0.125	NG	Furnace	202.G.1.
8312	376 8th St	4309	Comfort Aire	GMUH125-E5A	NA	0.125	NG	Furnace	202.G.1.
10130	737 Washington	4295	Riverside	2000W	NA	2	NG	Boiler	202.G.1.
875	875 Sweeney Rd	1854	Abrasive Blasting	NA	NA	NA	97500	lbs	202.H.1
1737	340 Airfield Rd	3521	Abrasive Blasting	NA	NA	NA	416	Hr	202.H.1
1749	1749 Airfield Rd	3633	Abrasive Blasting	NA	NA	NA	416	Hr	202.H.1
541	541 Coast Rd	3634	Abrasive Blasting	NA	NA	NA	416	Hr	202.H.1
9327	1346 N. Mexico	3837	Abrasive Blasting	NA	NA	NA	416	Hr	202.H.1
10260	101 Community Lp	3839	Abrasive Blasting	NA	NA	NA	416	Hr	202.H.1
8190	1580 Nevada Ave	3978	Abrasive Blasting	NA	NA	NA	416	Hr	202.H.1
8415	178 8th St	4164	Abrasive Blasting	NA	NA	NA	NA	NA	202.H.1
21155	155 Corral Rd	4283	Abrasive Blasting	NA	NA	NA	NA	NA	202.H.1
Various	Entire Base	NA	Architectural Coating	NA	NA	NA	NA	NA	202.D.14
10723	Nevada Ave	1214	AST; Diesel; 4,000 Gal	NA	24	NA	8760	Hr	202.V.2



1624	1624 Aero Rd	1220	AST; Diesel; 235 Gal	NA	24	NA	8760	Hr	202.V.2
1705	173 Airfield Rd	1249	AST; Diesel; 20,000 Gal	NA	24	NA	8760	Hr	202.V.2
1705	173 Airfield Rd	1250	AST; Diesel; 20,000 Gal	NA	24	NA	8760	Hr	202.V.2
9505	180 Landfill Rd	3164	AST; Diesel; 500 Gal	NA	24	NA	8760	Hr	202.V.2
1345	1350 Koa Rd	3277	AST; Diesel; 1,000 Gal	NA	24	NA	8760	Hr	202.V.2
5425	2010 20th St	3438	AST; Diesel; 500	NA	24	NA	8760	Hr	202.V.2
1731	320 Airfield Rd	3883	AST; Diesel; 525 Gal	NA	24	NA	8760	Hr	202.V.2
5425	2010 20th St	3926	AST; Diesel; 240	NA	24	NA	8760	Hr	202.V.2
1731	320 Airfield Rd	4139	AST; Diesel; 500 Gal	NA	24	NA	8760	Hr	202.V.2
1624	1624 Aero Rd	1232	AST; Gasoline; 235 Gal	NA	24	NA	8760	Hr	202.V.7
1624	1624 Aero Rd	1234	AST; Gasoline; 235 Gal	NA	24	NA	8760	Hr	202.V.7
1345	1350 Koa Rd	1243	AST; Gasoline; 249 Gal	NA	24	NA	8760	Hr	202.V.7
5425	2010 20th St	3439	AST; Gasoline; 240 Gal	NA	24	NA	8760	Hr	202.V.7
800	800 Napa Rd	3880	AST; Gasoline; 249 Gal	NA	24	NA	8760	Hr	202.V.7
1851	1851 Curly Rd	3882	AST; Gasoline; 249 Gal	NA	24	NA	8760	Hr	202.V.7
5425	2010 20th St	3925	AST; Gasoline; 240 Gal	NA	24	NA	8760	Hr	202.V.7
10260	101 Community Lp	3436	AST; Used Oil; 1,000	NA	24	NA	8760	Hr	202.V.7
3300	3235 New Mexico	3435	AST; Used Oil; 2000 Gal	NA	24	NA	8760	Hr	202.V.7
NA	Mira / Tangier Rds	3465	EOD Range	NA	500	NA	8000	lbs charge	202.P.13
753	853 Arguello Rd	SCR01	Scrubber; Fuel (FVSS)	NA	NA	NA	NA	NA	202.D.6
753	853 Arguello Rd	SCR02	(OVSS)	NA	NA	NA	NA	NA	202.D.6
21330	End of Gun Road	3493	Small Arms Range	NA	NA	NA	NA	NA	202.D.10
854	864 Arguello Rd	3533	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
10711	433 Herado Ave	3954	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
10711	433 Herado Ave	4126	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
3000	3000 29th St	4128	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
9320	334 6th St	4129	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
1728	302 Airfield Rd	4137	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
9320	334 6th St	4152	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
1749	1748 Airfield Rd	4158	Solvent Cleaning	NA	8	NA	2080	Hr	202.U.2-3
8310	351 8th St	4138	Solvent Cleaning	NA	NA	NA	NA	NA	202.U.2-3
10726	442 Washington	UST04	UST; Biodiesel; 10000	NA	24	NA	8760	Hr	202.V.2
NA	Various Locations	3547	Wd Chper; Reg# 123540	NA	24	NA	8760	Hr	PERP - RN 123539
1788	Site 13C/ABRES	NA	Soil Vapor Extraction.	NA	NA	NA	NA	Hr	FFSRA
1930	Site 32C	NA	Soil Vapor Extraction.	NA	NA	NA	NA	Hr	FFSRA





**Attachment 10.12. Fee Statement**





